

The School Arts Magazine

AN ILLUSTRATED PUBLICATION FOR THOSE
INTERESTED IN ART AND INDUSTRIAL WORK

Published by THE DAVIS PRESS, INC., Graphic Arts Building, Worcester, Mass.

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VOL. XVII

APRIL, 1918

No. 8

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Published by **THE DAVIS PRESS, INC.**

25 FOSTER STREET WORCESTER, MASSACHUSETTS

Entered as Second-Class Matter August 1, 1917, at the Post Office at Worcester, Mass., under the Act of March 3, 1879. All rights reserved. Monthly except July and August. Subscription Rates \$2.00 a year in advance; Canada \$2.25; Foreign \$2.50.
Copies on sale in New York at Brentano's, 27th St. & 5th Ave.; Chicago, Ill., A. C. McClurg's, 215 Wabash Ave.; London, Eng., Arthur F. Bird Co., 32 Bedford St., Strand; Philadelphia, Pa., Milton Bradley Co., 1209 Arch St.; Toronto, Canada, Geo. M. Hendry Co., 215 Victoria St.

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SERVICE TOGETHER

IF America is to achieve leadership among nations, our nation needs men and women who will be resourceful, who will possess initiative, and who will be able to exert moral force.

¶ Good citizenship is the foundation of a democratic nation. It follows that each individual composing our nation should be taught truths and be trained in processes that will make and keep them fit for citizenship. The burden of responsibility for the future of Democracy therefore falls largely upon teachers. The traditions of the teacher's profession are such that our Government may safely depend upon them to see and do right whenever the principle motivating their methods is proven worthy and is interpreted clearly.

¶ Loyalty to principle merely will not, however, develop a national citizenship that is unified in its interests and aims. There should be a common understanding of what is worth while and concerted effort made to attain supremacy in the worth while things.

¶ That Industry is one of the Nation's vital interests and that Art in its products is a valuable asset in the resulting Commerce has generally been accepted. The questions involved in "ways and means" to achieve a worth while Industrialism in America are still unsolved. The problem is specifically one for the Art Teacher to study and solve and thereby to serve the cause of Democracy.

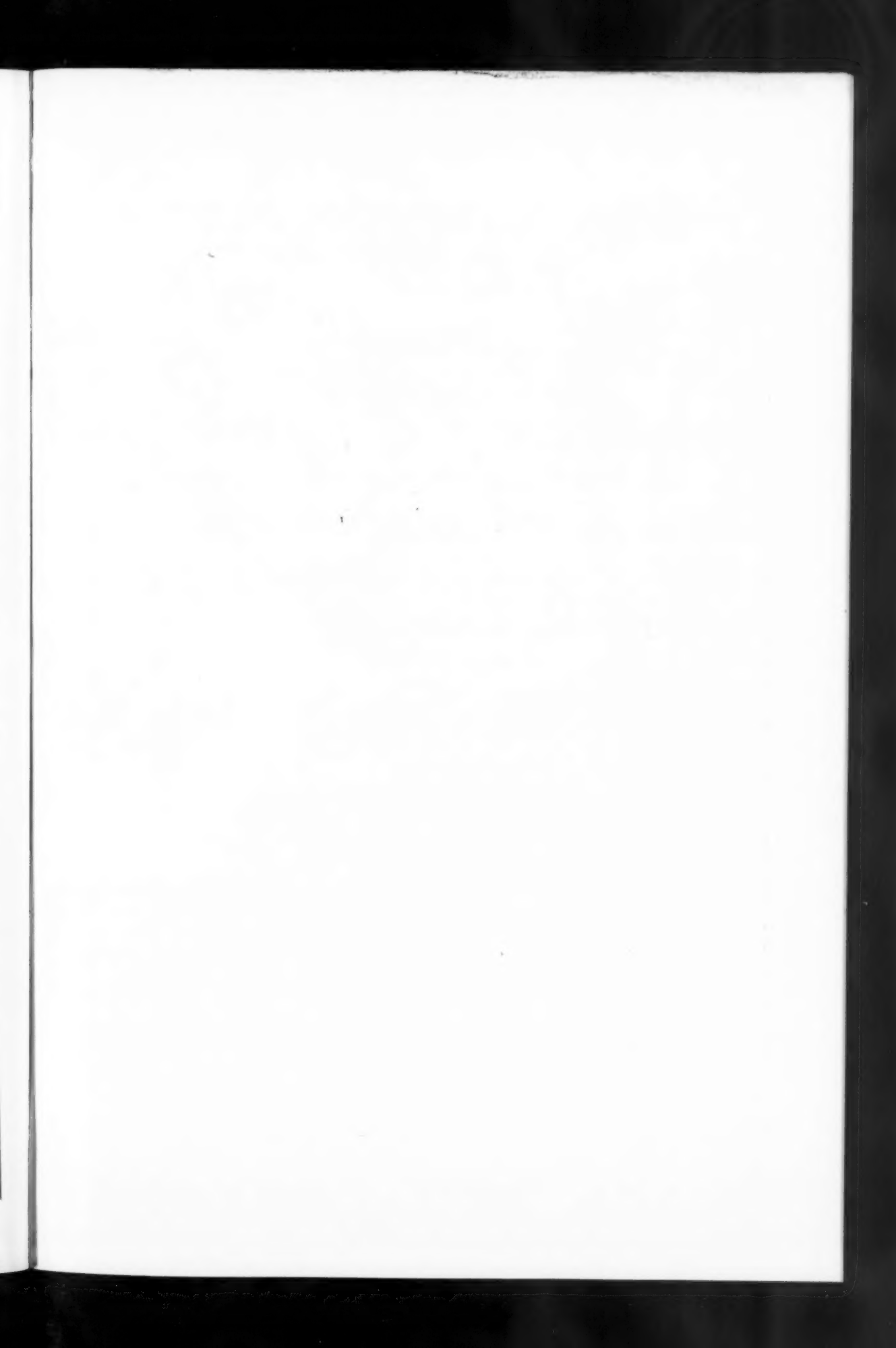
¶ As THE SCHOOL ARTS MAGAZINE has always served the teachers of the country in all movements for the betterment of our National Art it claims the privilege of leadership in the present movement for better National Industry. As co-operation has never before possessed the significance it has today the MAGAZINE also depends upon an understanding of this new significance by the teachers of the country to retain leadership for their benefit. It desires interpretations of industrial conditions by teachers who are earnestly trying to work for the interests of their community and it also desires illustrations of how they are utilizing the talent of their community to further these interests.

¶ Teachers: Speed up action so that service together may realize results that will gain for Industrialism in America the quality that will stamp it supreme in the World's markets. It is our duty to serve together to preserve the vision which we have of Democracy's future which is founded in a faith equal to that voiced by a late hero and martyr to Democracy's cause:

Ye that have faith to look with fearless eyes
Beyond the tragedy of a world at strife,
And know that out of death and night shall rise
The dawn of ampler life,
Rejoice, whatever anguish rend the heart
That God has given you a priceless dower,
To live in these great times and have your part
In Freedom's crowning hour.

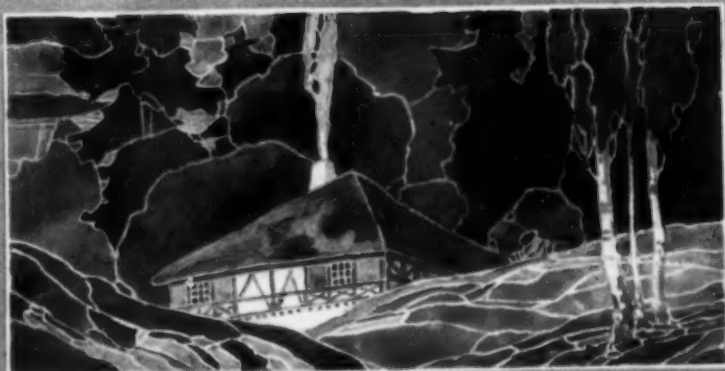
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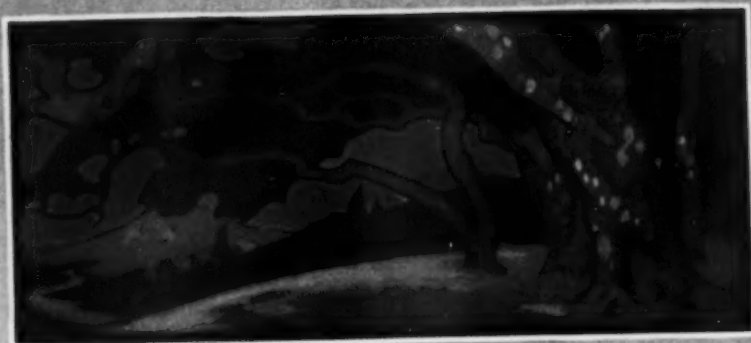




COLORED CRAYON



WATER COLOR



INK AND WATER COLOR

THREE METHODS OF DESIGNING DECORATIVE LANDSCAPES APPLICABLE TO INDUSTRIAL ART.
REPRODUCED FROM "DRAWING, PAINTING, DESIGN, AND HANDICRAFT," BY PEDRO J.
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THE SCHOOL ARTS MAGAZINE

VOL. XVII, NO. 8

APRIL, 1918

Wrestling with Landscape in Design

PAGES FROM AN ART STUDENT'S DIARY

JUNE 3rd.—Dad has raised a rumpus about the art school, and says I've got to learn some sensible art, something that will bring in checks instead of coax checks out of him. It looks like the end of good times for me. Jim and Red and I sure have some times in the life class and supposing I didn't work hard, they say great paintings are made mostly after long periods of idleness so I think an art student ought to work only when he feels like it. Dad says a lazy artist is as bad as any other hobo and that he isn't going to have any perennials in his family garden, and that artists can be useful as well as ornamental.

June 8th.—Here I am up in the mountains. Dad just shipped me to Tom Grainger to learn how to paint and design landscapes. Grainger has his studio among the trees as he uses them a lot in his work and gets big prices for his murals and window designs. The fellows saw me off on the train and told me that Grainger is a commercial artist and for me to show him what art is and hoped that I would see that he got more "jazz" and "punch" in his stuff. I've brought my life drawings along and if I know anything, when he sees my work he'll know that trees will be a walk-away for me.

June 9th.—Showed Grainger my drawings. Don't see why Dad hollers so strongly for Grainger anyway. He only raised the corners of my drawings mostly, and said, "Same kind of stuff," and said that I would be surprised to know how little use after all there was for nude drawings in everyday art work. He said that "life drawing" was the wrong name, that "mummy drawing" would be better considering the petrifying effect it had on most of the students' careers. I told him that anyone who could draw figures could do trees, and that landscape didn't have any anatomy to watch for. I'm aching for a chance to show him what I can do to a tree.

June 12th.—Grainger told me to make some good studies of different tree characters. You'd think that the trees had personal traits to hear him talk. To me a tree's a tree. Come to think of it, I've used them in Composition Class, too. Whenever I didn't know what to do with a picture corner I've rubbed in a tree to balance in. For outdoor scenes all you have to do is to make a haystack of lines with one leg for a tree. If it's an indoor scene like a restaurant scene or a Gibson illustration, you put a large jar under it to make a potted plant of it. Nothing to it.



TO AVOID TOO MANY SMALL PARTS AND TOO MANY VALUES WORK WITH WHITE PAINT ON BLACK PAPER.
THIS PERMITS SEEING MORE EASILY THE MASSES THAT ARE TO REMAIN.

Reproduced from "Drawing, Painting, Design and Handicraft." Courtesy of Pacific Press Pub. Assn., California

June 13th.—Been drawing trees all day, but my evil genie has been keeping me company, and besides I could never do anything on the 13th. Always used to lay off at the school on the 13th—that is besides the other days. Red and Jim never worked on Fridays or if there were thirteen fellows in the class. Grainger told me to keep it up and told me of a couple of old trees on a wind-swept hill to work from for "anatomy." Bess—she's the housekeeper—said my tree looked like a piece of Swiss cheese with a handle on it, but she must have been joking for I was working for the atmospheric effects through the foliage and it had to have all those openings.

June 28th.—Say, I've been working like a Trojan for the last two weeks. Grainger is O. K. He just let me flounder around good until I told him that I didn't know how to draw. I've decided that to draw a posed figure up against the same kind of background with the same light day in and out is no stunt at all. It's regular "rubber-stamp" work by the side of these trees. Why, I see more trees now, kinds of trees I mean, than I knew ever grew before. I've made some drawings that Grainger says are good studies. There's one tree that I've got my eye on—an oak that has different effects different parts of the day and they're all great!

July 2nd.—Grainger says that I've drawn trees naturalistic enough now for a while, and that I'm to work them decoratively—to apply them. Didn't know what he meant until he and I looked over a lot of his portfolios and say, *he can draw*, and one of his portfolios had some life drawings that made mine look faded. Said he made the same mistake I did, stayed in life class too long. I'm to compose some panels

tomorrow with trees arranged decoratively. The last drawing I made he said was "bully." Maybe he's sorry he told me when I commenced that my trees looked "blown up," and that the man who could grow trees like mine would make his fortune, as they could be cut down and used for automobile tires.

July 3rd.—Nothing doing in the decorative tree line. Walked around hunting for something decorative so long that I was too tired to write in the diary last night. Every time I found a good scene, something was in it that wouldn't work in right, or if there was some part that would work in well, it was round to one side in another composition. Grainger says that the trouble is I'm so artistically conscientious that I'm a human camera. "Cut out and cut in whatever will compose well. You're making a decoration, not a photograph. You'll find that the best writers and composers are those who eliminate and bring in the scenes to make the complete scheme. Go at your work the same way. Plan your space, then go and pick from Nature that which best fits it." Those are some of the things I remember. Tomorrow's the 4th and he says that he'll lay off from his Exposition panels and put a day in the open with me.

July 5th.—Before we started out yesterday, Grainger marked my paper off into a lot of different spaces and said that the arbitrary spaces would represent similar restrictions in professional work, as murals and windows always had certain dimensions that the artist had to work within. And that our sketches would all be made simple and within those spaces, and say, you ought to have seen the way he went at it. He



MARK OFF A NUMBER OF SPACES TO REPRESENT INDUSTRIAL ARBITRARY SPACE REQUIREMENTS, AND GO OUT SKETCHING DETERMINED TO SECURE A GOOD COMPOSITION IN EACH ONE.

Reproduced from "Drawing, Painting, Design and Handicraft." Courtesy of Pacific Press Pub. Assn., California

simply took the mass as a whole and spotted it in the best position and changed the curve or limbs to fit gracefully, if necessary. And he didn't put in all the saw-edges of the trees, but just the important breaks. He made the whole shape first, and half closing his eyes, picked out and drew just the big openings and arranged them so that they had "rhythm." I tried one but I couldn't help putting in a lot of hit-or-miss leaves and he told me this: "Tell the truth but not the whole truth in art and particularly in decorative work. Don't think that the music record entitled 'Farmyard in the Morning,' where you can hear the calf bawl and the duck quack natural-like is the best, or that the descriptive article which tells you just wherein the Smith's bridge was located in relation to every other landmark in the county, similar to a real estate deed, is interesting. And that 'true to Nature' is not wanted or needed in art any more than in those other arts, and that art is Art only when Nature has man added—that is individuality." Say, you know I'm getting a lot more with Grainger than I did in that stuffy Life Class.

July 13th.—I've got the knack, I think, of working decorative landscapes. Anyway, Grainger has put me to work applying my sketches in black and white to tiles and leather and metal, glass and even textiles. He says that every artist should know how to say things in different materials and find out how much the materials will let him say. He simply hates materials that look like what they're not. I remember at the art school how we all fell for the cover of the "Art Student" because it looked and felt like leather when it

wasn't, and how we painted our lockers to look like marble and brass when it was only wood. No more "camouflage" like that for me. I've finished the landscape of the old tree in leather and am working one out for a tile. It's lots of fun and it's a man-size job, too, let me tell you. Worked all day. Didn't want to stop to eat and it's the 13th, too.

July 15th.—Forgot to say that I had to work out the black and white panels backwards. That is, I worked with white paint on black paper. Grainger says that I was getting too many small parts and too many values. I find that it has helped out a lot working that way, because I can more easily see what I am leaving. I commence tomorrow to work in colors.

July 16th.—All discouraged again. Thought I knew color but I don't. Grainger gone to the city for a couple of days.

July 19th.—Grainger said I had decorative designs but natural coloring. Mongrel drawings he called them. Said that if a drawing is conventional the coloring should be equally so. Never thought of that. He showed me how I could get color notations from barks of trees and dry leaves, from shells and lots of other things he has in a case. The scheme works out fine. I see where Maxfield Parrish, Guerin, and the others go for their color. I've just used these schemes with my sketches and it's as good as any game. I spoiled my drawings at first trying to shade up the coloring, but Grainger showed me how to keep the color flat, changing it only where it was a different hue and not when it was affected by light or shade. He's given me a print by Rivi re and one by Hokusai that are "peaches."



A LITTLE INVESTIGATION WILL REVEAL THE LIMITATIONS OF THE DIFFERENT CONSTRUCTIVE MATERIALS. THEN SEE HOW MANY DESIGNS AND APPLICATIONS CAN BE MADE FROM A WELL STUDIED SKETCH OF A TREE OR LANDSCAPE.

Reproduced from "Drawing, Painting, Design and Handicraft." Courtesy of Pacific Press Pub. Assn., California

I never used to look twice at Jap prints.

July 27th.—I must put down the ways of doing color sketches that Grainger showed me. First, there's the method of using Conte crayon pencil on rough paper making a bold outline and dark masses, and then using pastels for the colors. Good quick way for working direct from Nature. Can work now right from the real trees and transpose it on the run.

Second method is the water-color and light outline. For stain glass effects. This is worked in flat colors first and then each color is separated by a light line. The lines represent the leaded lines and as glass cannot be cut into long points or portions cut out of a glass center, each piece must equal a glass that can be cut and assembled. Have to keep your wits about you in doing this.

Third, there's the ink-and-water color. Ink in the outlines strong and the dark masses with waterproof ink. When dry, rub with a stiff brush and

water until the paper shows through a little. Then a light wash of yellow ochre over it all and the colors added after this wash is dry.

July 30th.—Going home for Dad's birthday. Grainger says he can use me in his work. I know I've lots to learn yet but it's great sport and so many directions that I can use my sketches now that I wonder how I ever was content to just make life sketches by the square yard like a printing press. Couldn't get my decorative landscapes in the trunk with the life drawings so I put the life sketches in Grainger's woodshed. Glad to see Dad and Mother but want to come back and get more of Grainger's punches as his punch is right there where it does a fellow the most good. Say, it makes me smile to think that I was going to put some punch in Grainger's work. I did, but I guess I was the punching bag. It's great to feel that my art work is going to be of real service to the community.

—PEDRO J. LEMOS

That nation, which after the war, employs the best teachers with the highest pay and as a part of the best school system will be the best governed and therefore the greatest nation. No people which does not respect education will demand and support good government, and if there is not a vital impulse running through its education the people of no nation can be expected to respect it. . . . Worthy education is impossible where inferior teaching forces are employed, and only inferior teaching forces can be secured where inferior pay is offered. Where teaching is inferior good government cannot be expected.

—FISHER, EDUCATIONAL COMMISSION OF ENGLAND

Portland Cement in Elementary Education

LEON L. WINSLOW

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A FEW years ago the industrial raw materials used in elementary schools were few; boxes were made from paper, baskets from rattan, and dishes from clay. But outside of paper, rattan, and clay, no materials of consequence were available. Today teachers are not limited to three materials. Plaster and Portland cement are almost, if not quite, as important in the life of today as are clay and paper, and yet these materials are seldom employed in school. There is a great future ahead for both plaster and cement in the educational field. I hope that all of our readers made a study of Mr. Lemos' excellent article on "How to Make Plaster Toys," contained in the November issue of the *SCHOOL ARTS MAGAZINE*.

We hear a great deal nowadays about concrete construction; a long list of things ranging from sidewalks and fence posts to great buildings, dams, and bridges are built of it. Its use as a constructive material dates from ancient times. The Romans at the beginning of the Christian era were as extensive users of it as we are today. The ancients, however, employed a natural cement, whereas we use a manufactured product. The popularity of concrete as a building material is due to the following factors: cheapness, convenience, durability, strength in compression, and fire-resisting qualities. For building purposes, concrete is superior to most varieties of stone both in compression strength and in durability, while stone is far more expensive.

The use of concrete is replacing that of timber in many industries, a fact which is due chiefly to the scarcity and resulting increase in the value of timber

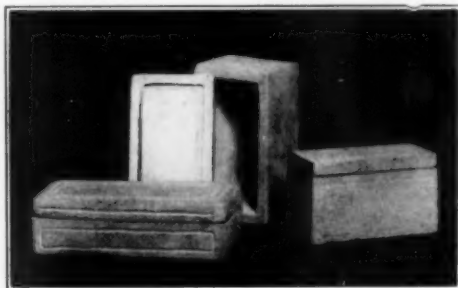


FIG. 1. SOME COMPLETED BOXES

Three materials are used in the making of concrete: (1) The *matrix*, or binding agent, which is generally Portland cement, so named by its originator, Joseph Aspdin (1824) of Leeds, England, because of its resemblance to the cliffs at Portland, England. (2) The *aggregate*, which consists of the hard materials such as broken stone, gravel, and sand. (3) *Water*.

The principal ingredients of Portland cement (the matrix) are lime, silica, iron, and alumina. They are obtained from rocks which are mined or quarried as the conditions require. Marl or river mud also furnishes materials for the manufacture of Portland cement. The rocks are crushed in a powerful jaw crusher, and the crushed stone pulverized in a ball mill, consisting of a cylindrical drum which revolves in a vertical plane. The process of grinding is accomplished by means of balls of hardened steel, which tumble and roll

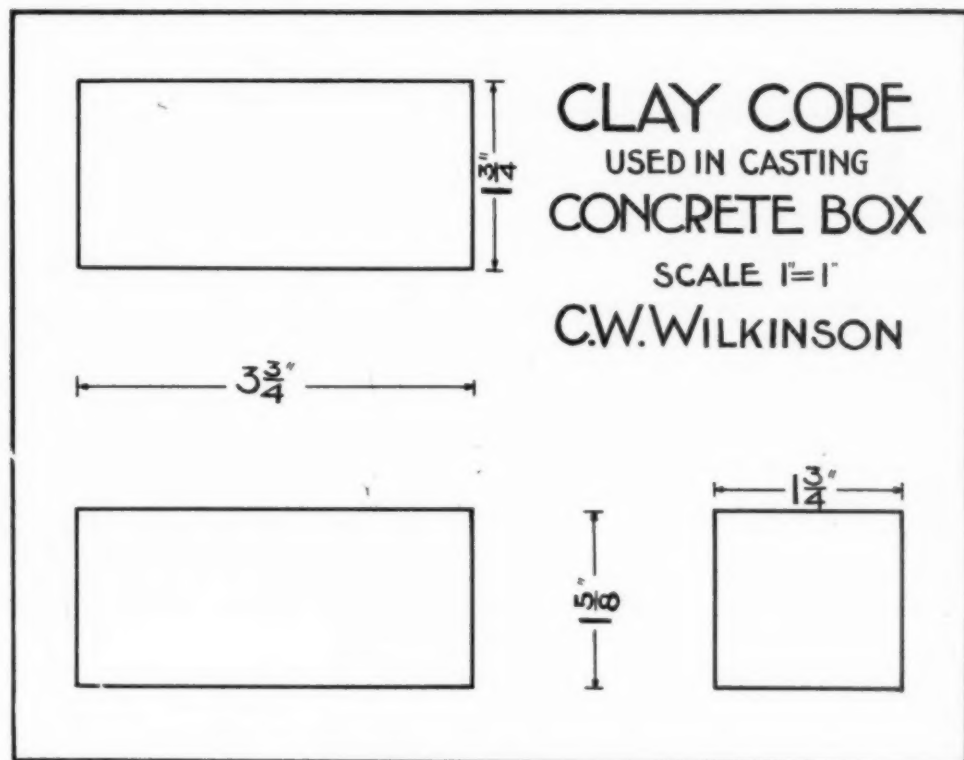


FIG. 11. WORKING DRAWINGS SHOWING HOW THE CORE IS FIGURED.

among the pieces of rock as the cylinder revolves. Seldom, if ever, are rocks found which contain all the constituents of Portland cement; if lime is lacking in the cement rock, limestone is added to the ground rock; if alumina is lacking, it is furnished in the form of shale, etc.

When partially ground, the materials are properly proportioned and are thoroughly mixed by being ground together. The resulting fine powder, known technically as the raw mixture, is fired in a cement kiln, a great tube, cylindrical in form, which is constructed of boiler iron and lined with fire clay. The kiln lies in a nearly horizontal position, being slightly elevated at the receiving end. The raw mixture enters the kiln at a hopper, which is attached

to the elevated end, while the cylinder revolves laterally just as a pencil revolves when twirled between the fingers. Cement kilns are from six to ten feet in diameter and from sixty to two hundred feet in length. They are revolved by means of huge gears which, extending entirely around the kiln, mesh with smaller driving gear wheels, while the tube rests upon riding wheels resembling large casters. An intense heat of from 2,500 to 3,000 degrees Fahrenheit is maintained in the kiln by the combustion of powdered coal which is blown into it at the lower, or discharging end, by a forced draft. As the small particles of raw material gradually roll down through the revolving tube of the kiln, they are

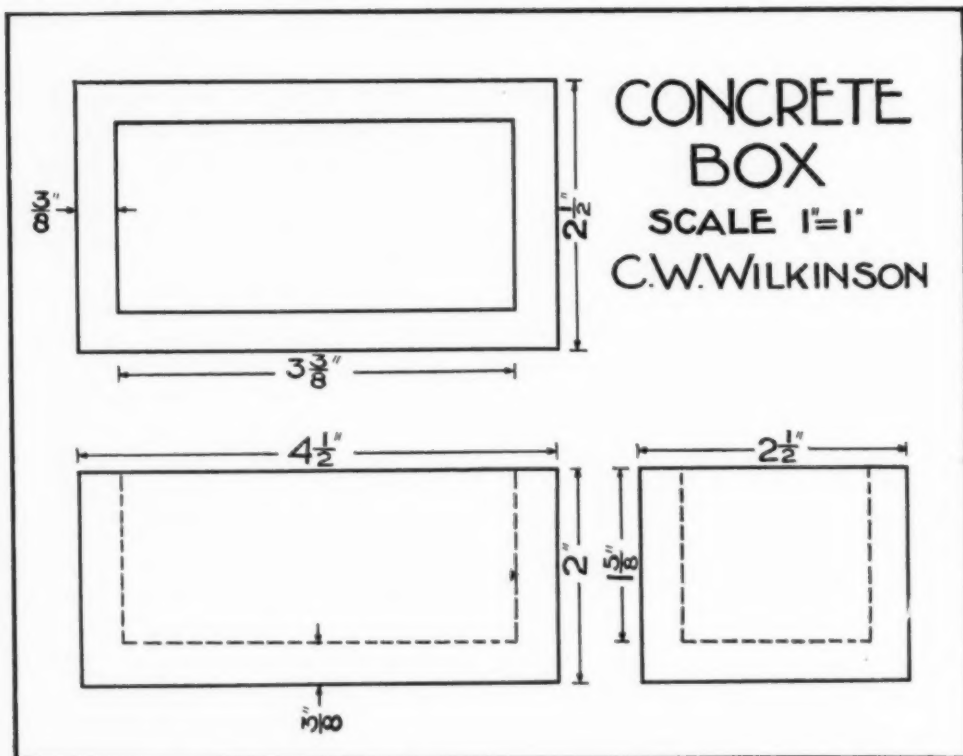


FIG. III. WORKING DRAWINGS SHOWING HOW THE CONCRETE BOX IS FIGURED.

burned, or *calcined* as the cement maker puts it, to clinker, and are dropped out at the lower end. The clinker comes out in the form of little balls which are about three-eighths of an inch in diameter. Their surfaces are rough but they are quite round and uniform in size.

When the clinker has cooled sufficiently, it is reduced once more in a ball mill. This time it is ground so fine that the powder will pass through a screen with 40,000 holes to the square inch. This finely-ground powder is our finished Portland cement of commerce.

When the first Portland cement was made in England along the banks of the river Thames, it was fired in a stationary

kiln. The making of a single batch of cement then required about twenty-four days. Today the process is continuous and many hundreds of barrels are turned out every twenty-four hours.

The aggregate used in the making of concrete consists of large stones and sand. In practical work all stones which will pass through a sieve with four meshes to the linear inch are considered sand. The materials must be clean and hard. Sand which is too fine or which contains over five per cent of vegetable matter or loam will not produce good concrete. It should not be used.

In order to test the sand and to determine if it is clean enough for use one may take a common one-quart

glass fruit jar and place in it four inches of the sand to be tested. Water is poured in until it reaches to within three inches of the mouth of the jar. The jar is now covered and is shaken vigorously until the sand is entirely suspended in the water. The mixture is allowed to settle until the water has cleared. If, after the water has cleared, the layer of loam which has been deposited above the sand is one-half inch thick the sand is not fit to use.

The best results in concrete work will be obtained when various sizes of sand and stone are used. The small aggregates will then fit into the voids formed between the larger ones and a compact or dense mass will be produced.

The water used should be free from all impurities which would tend to injure its action upon the cement. Moderately warm water will hasten the hardening of concrete while extremely cold water retards the hardening. The hardening of concrete is called *setting*. It is a chemical process.

Concrete is molded, when soft, into appropriate shapes by the use of forms which must be made tight enough at their joints to prevent the mixture from running out, as it is poured into them in a semi-liquid state. The forms should be adequately braced and tied to prevent the pressure of the materials from spreading them. Nearly all forms are made from wood, although iron and steel are coming to be used in the making of forms which are used over and over again. In the building of foundations, trenches are dug and the walls of earth thus provided are utilized as forms below the ground. In the making of concrete pottery and small articles, plaster-of-Paris forms are sometimes used.

Concrete structures are often reinforced in order to strengthen them; especially is this done where they must stand tensile strain. The kind of reinforcing and its placing depends upon the shape of the structure and the location of the strains to which it is likely to be subjected. Small structures are reinforced by the imbedding of wires in them while the material is being poured. For heavier work, coarse iron bars and even steel girders are used.

If the best results are to be obtained, concrete must be mixed thoroughly. The purpose of mixing is to get the smaller aggregates to fill the voids between the larger ones in order that a dense mass may be produced, and to provide that each particle of aggregate may be entirely coated over with a thin covering of cement which will cause it to adhere to those about it. Each tiny grain of cement must be thoroughly wet if an efficient hardening is to be obtained, a *setting* which will bind the whole mass together into a compact, stonelike conglomerate. The setting of concrete involves chemical action. It is not a drying process; quite the reverse. Drying must be prevented until setting is accomplished.

When concrete is to be mixed by hand, a large mixing platform constructed of planks is used. The platform is provided with strips nailed to its edges to keep the liquid mixture from running off. The fine aggregate and the cement are first mixed dry and then water is added slowly as the process of mixing is going on. The coarse aggregate is then wetted and is mixed with the fine materials.

When concrete is not mixed by hand the mixing is generally accomplished by means of a rotary batch mixer, a

power-driven machine which consists of a barrel into which the materials are poured by means of a hopper. They are first mixed dry and then the water is turned in. The barrel is revolved until all the materials are thoroughly combined. The following are some of the standard concrete mixtures:* Rich mixture, 1:2:3, used in watertight utensils and in places where there are high stresses. Standard mixture, 1:2:4, used in machinery foundation and in floors. Medium mixture, 1:2½:3, used in retaining walls, sidewalks,* and similar structures. Lean mixture, 1:3:6, used in heavy walls and in large work generally.

Just what takes place when concrete sets is not definitely known, but we do know that the bond continues to strengthen for a long time after the material has had its initial or first hardening. It will stand a much heavier load after it is a year old than when only a month old. How long this gain in strength continues is yet to be determined by the scientist.

For the sake of making the above subject matter interesting and clear it is advisable to allow the children to construct something from cement mortar or from concrete. The sixth grade in the Training School of the Bowling Green (Ohio) State Normal College are now at work on the project described in this article. The examples given in the article, however, are taken from the work of a normal class. The normal students cast the little boxes shown in Figure 1.

In the making of a rectangular box from cement mortar the following steps



FIG. IV. PREPARING OUTER WALLS OF FORM.

of procedure are observed: (1) Determine use of box and its dimensions. No dimension shall exceed five inches. The walls and bottom will be three-eighths of an inch thick. (For sixth grade one-half inch walls are more appropriate.) (2) Make a working drawing of box, representing three views. Figure II. (3) When the box is cast in concrete it will be necessary to use a clay core to provide for the shape of the inside of the box. Make a working drawing of this core, using the inside dimensions of box as dimensions for the core. Figure III. (4) Compute in cubic inches the total volume of box, solid. (5) Compute volume of core. (6) Find difference between these two quantities, which will give the cubic content of the walls and bottom of box. (7) Allowing one-half of this volume for loss when materials are mixed (the cement filling the voids between the grains of sand), determine the number of cubic inches of material needed. (8) Four parts of cement will be used to one part of

*The first figure indicates the number of parts of cement; the second, the number of parts of fine aggregate; the third, the number of parts of coarse aggregate.

*Sidewalks are often made with a 1 : 1½ : 5 mixture as a base and finished with a 1 : 2 mixture (1 cement and 2 sand).

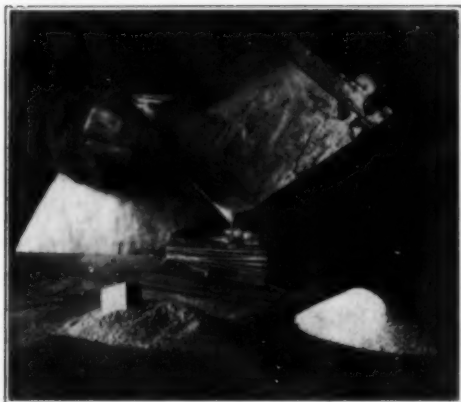


FIG. V. POURING CONCRETE INTO THE FORM.

sand.* How much cement will be used? How much sand? (9) Make core of moist clay or of plasticine. (10) The box will be cast with the mouth down, or in an inverted position. Place core on a piece of board, putting a sheet of paper, or better, waxed or stencil paper, under the clay to prevent concrete from sticking and the wooden board from warping. (11) Prepare outer walls of *form*, building them of clay or plasticine about one-half inch in thickness, leaving a full three-eighths inch (one-half inch in grade six) between the core and the walls, carrying the walls up a little over three-eighths inch (one-half inch in grade six) above the top of core in order to provide for bottom of box. Figure IV. (12) Construct a measure in the form of a one-inch cube, for cubic measure. Use heavy paper and provide laps for gluing. (13) Measure out the cement and sand, placing these materials in a shallow dish (a pie tin makes a good mixing pan). (14) Mix the materials dry, and then slowly add water while mixing until the mixture is just thin

enough to pour. (A broad knife is a good tool for mixing.) (15) Strengthen the clay form by piling clay about it on the outside. Also tie a string around the form. (16) Pour the concrete mixture into the form, over the core, being careful to avoid air bubbles. Figure V. (17) *Tamp* with knife, being careful not to disturb core. (18) Place long wire nails across core in order to *reinforce* the box at the bottom. Do not allow nails to project to within more than one-fourth inch of the form walls. (19) Put away to *set*. The cement will begin to harden within half



FIG. VI. REMOVING THE OUTSIDE CLAY FORM.

an hour. Damp cloths should be thrown over the form at the end of an hour from time of pouring; this will prevent the evaporation of the water and will thus facilitate setting. The form should not be disturbed until at least two days have elapsed. (20) Carefully remove outside clay form, Figure VI, and dig out clay core. (21) Smooth outside of concrete box by rubbing it over a piece of No. 3 sandpaper, being careful not to break it as it is still quite soft. (22) Make on

*White Portland cement and marble dust may be substituted for these materials if the same can be obtained from the dealer. Boxes made of the marble are more attractive than those made with sand.

paper, using pencil, a simple border design in line, adapting it to the purpose of decoration. (23) Scratch this design upon the box with a sharp wire nail. (24) Place completed box in a pail of water to become as hard as rock. The more time allowed for this process of *curing*, the better. Four days, however, will be found sufficient. (25) Remove box from water. (26) Drain water out of it and allow all moisture to dry out of walls and bottom. (27) Paint box, if desired, with Toch's cement filler or with any other suitable cement varnish. If a dull finish is desired, the hard varnish may be sandpapered with No. 00 sandpaper.

If the making of a similar box should be attempted in Grade V, the walls had better be one inch thick in order to simplify the computation.

The following is given as an example of such computation:

Dimensions of box 5" x 4" x 3"

Dimensions of core 3" x 2" x 2"

- (1) Volume of box (solid) = $5 \times 4 \times 3 \times 1$
cu. in. = 60 cu. in.
- (2) Volume of core = $3 \times 2 \times 2 \times 1$ cu. in.
= 12 cu. in.
- (3) Number of cu. in. in the walls and bottom
= 60 cu. in. - 12 cu. in. = 48 cu. in.
- (4) Amount to add for loss when mixing
= $\frac{1}{2} \times 48$ cu. in. = 24 cu. in.
- (5) Total amount (by volume) of material's
needed = 48 cu. in. + 24 cu. in. =
72 cu. in.
- (6) A mixture of 1 : 2 : 3 (six parts) will be
used.
- (7) Amount of cement necessary = $\frac{1}{2} \times 72$
cu. in. or 12 cu. in.
- (8) Amount of sand necessary = $\frac{2}{3} \times 72$
cu. in. or 24 cu. in.

- (9) Amount of gravel necessary = $\frac{3}{6} \times 72$
cu. in. or 36 cu. in.

It will be noticed that the boxes shown in Figure I have covers. These were made according to the following method. After the box had been cast a clay core was again placed in it. This core did not extend to the brim of the box but was allowed to reach only to within one-eighth inch of the brim. The box was then placed on the table with the brim up. The exposed parts of the brim were then covered with pieces of oiled paper. Oiled paper was also wrapped around the box on the outside and creased at the corners. String was wound around the form as before and a mixture of cement and sand was poured into the box, being allowed to extend up into the wax paper form to the desired thickness of the cover. The newly poured cement plaster was then allowed several days to *set*. The cover was removed by pounding the blade of a knife between it and the box. The edge of the knife must extend the entire length of the box and the cover should be quite hard before this is attempted. Box and cover must be placed under water for the final hardening. If oiled paper is not available the making of a cover may be accomplished by the use of an outside form of clay. The brim of the box will be covered with a thin layer of clay and clearance for the removal of the cover will be allowed on the inside of the box by making the clay covering thicker as it approaches the core.

"THRIFT IS NOT MISERLINESS BUT THE FIBRE AND CHARACTER WHICH TAKES NOTE OF THE EFFECT OF WASTE AND WHICH ORDERS THE INDIVIDUAL'S AFFAIRS WITH FAR-SEEING VISION."

Frank A. Vanderlip.

Conservation of Materials for Industrial Use

BONNIE E. SNOW

Millburn, New Jersey

THE Committee of Ways and Means undoubtedly will welcome suggestions as to the various economical devices which have been employed by teachers in different parts of the country in working out problems in industrial art. In some cases the School Board is able and willing to spend all that is necessary in providing a liberal equipment for the practical application, in terms of material, of principles of design and color, but often the funds available for this purpose must be stretched over a wide field. To make a little go a long way is the problem of many a supervisor. In these times, particularly, when strict economy is the rule in every household, it becomes our duty to make use of any and all devices and materials which will economically serve the desired ends, without educational loss. It is better for the children to bring from their homes many materials for use in carrying out projects in industrial art. It is better, for example, to make use of tablet backs, empty boxes, and cardboard waste of all kinds than it is to supply children with new materials of this kind. That training is valuable indeed which leads the child to look twice at a scrap of bright paper or a bit of silk before consigning it to the waste basket. Reclaiming the useless, making old things new, and transforming the commonplace are accomplishments which are always valuable and dignified, but which take on a new meaning in these days, when spenders

must become savers, and when the American tendency to waste must be controlled and supplanted by American cleverness in turning everything to account.

ECONOMICAL STICK PRINTING OUTFITS

A ten-cent stick printing box, containing color pads, several sticks of different shapes, and sand paper, is convenient for individual use, but not indispensable. In many school systems the boys in the manual training department prepare short lengths of dowels, square stock, and other shapes of soft wood, carefully measuring, sawing, and cutting these sticks for pupils in the primary grades. These sticks are fastened together in dozens, with rubber bands, and their distribution thus becomes an easy matter. Ends of matches and of small corks, bits of rattan reeds used in basketry, accurately cut edges of cardboard for printing stems, bars, and lines, and even shapes cut from raw potato have all been successfully used in many schools for color printing. Instead of the color pads commercially provided, small pieces of outing flannel may be brought from home, cut into inch squares, and saturated with strong water color solution. A cake of hard water color dissolved in about two ounces of water with a teaspoonful of mucilage added, will make a solution that will print well on paper or cloth, but which will not wash. Diamond or Easy Dyes in solution may be used

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for stick printing. All the colored inks, red, blue, green, black, etc., are also excellent. A fine blue may be printed with the common indigo of the laundry. Saturated color pads may be placed on jelly glass covers, on bits of cardboard or in the bottom of the water color pan.

THE ECONOMICAL USE OF COLORED PAPERS

A liberal amount and a generous assortment of colored construction and engine colored papers are necessary; but whatever the provision is, it can be supplemented and enriched by training the children to save every scrap of colored paper that they can find. One teacher placed a large flat box on the table in the schoolroom, and the children brought box linings, colored wrappings, paper bands from the Chinese laundry packages, colored advertisements, posters, circulars—everything that was beautiful in colored paper. The result was a splendid assortment of colored papers for Costume Design and for other decorative purposes. The injunction, "Never throw away a scrap of colored paper" will help to conserve our present supply, and tide us over this time of famine in dyes and in paper.

THE ECONOMICAL USE OF SQUARED PAPERS

Squared paper is a wonderful aid in planning designs. It is commercially supplied in a great variety of sizes, ranging from inch to sixteenth inch of squared surface. If but one of these divisions can be purchased, it is probable that a supply of paper in quarter-inch squares will be of greatest service, for with this division as a basis, inch, half-inch and eighth-inch divisions can quite easily be secured.

THE ECONOMICAL USE OF PAINTS AND CRAYONS

Every caretaker of school supplies knows that such commodities as scissors, rules, compasses, water pans, paste cups, hammers, and other tools do not need replacing every year. In industrial art, one of the essential things to be taught is the care of tools. Tools must be kept in good condition. A certain replenishing of stock every year is inevitable, but compared to the initial expense of buying, the cost of keeping up the supply is slight. Many teachers think that paint boxes, brushes, and boxes of crayons must be annually renewed. When the Board of Education buys such materials, paint boxes will last for several years. Separate cakes of water color can be bought for refills, and brushes can be purchased separately. Crayons can be bought in boxes of single colors, or in boxes of assorted colors. These seldom need annual renewing, though the practice of sharpening crayon points should be more generally followed, in order that crayon outlines may be clear and definite. Crayons are so cheap that we should not hesitate to keep their points in good condition, as we do the points of lead pencils. Crayons containing a little wax are better for school use than pastels or chalks, though they are not so fine in color quality. Semi-moist water colors "spend" more easily than hard cakes, and, therefore, do not last as long. Kalsomine colors, which come in powder form, may be used for painting toys, cardboard furniture, and even for posters. They are much cheaper than the ordinary forms of transparent and opaque water colors. Opaque water colors, variously known as Show Card Colors, Liquid Tempera, Letterine,

etc., are generally reserved for the intermediate and grammar grades. They are supplied in two-ounce bottles, in sets of twelve assorted colors. It is generally estimated that one box or set of these colors will last a class of forty pupils a term, or half year. Opaque water colors are also supplied in quart bottles, when large quantities of a few colors are desired. All opaque water colors including kalsomine, may be applied with ordinary water color brushes, as the colors wash out freely.

ENAMEL PAINT OR OIL PAINT CONTAINING VARNISH

Oil paints of all kinds are harder to handle with classes of pupils than any of the water color preparations. Generally their use is confined to seventh and eighth grades and high schools. One coat of enamel paint will dry over night, then another coat may be applied when desired. Although enamel paint may be spread with water color brushes such use renders them unfit to use again with water colors. All brushes used must be thoroughly cleaned with turpentine or kerosene after using for oil paint. A little vaseline should be rubbed into the brush after such cleansing, and this should be carefully wiped out before using the brush again with oil paints. Enamel paint may be mixed to obtain different color tones. It is supplied in two and a half ounce cans. A good selection of colors to begin with is the following: White, black, carmine, ultramarine, blue, chrome yellow, chrome orange, emerald green. These colors will last the average class a term or half year.

THE ECONOMICAL USE OF FABRICS AND CLOTH

Various checked ginghams, striped calicoes and percales, and dotted mus-

lins of different kinds find many uses in industrial art. These materials may all be purchased by the Board of Education, but it is really better, when possible, for the children to bring from the family piece-box such scraps of these fabrics as can be spared. The result will be a less slavish "sticking to the text," a greater variety, and what is even more important, the enlistment of home sympathy in the school work of the children. The same applies to various embroidery cottons, flosses, Germantown yarns, crochet threads, etc. A substitute for filet canvas may be found in the well known filet curtain net, starched stiff and ironed flat. A five-cent square-meshed dish cloth may also be starched, ironed, and cut into the strips or pieces required for exercises involving the use of a square meshed canvas. There is also obtainable a cheap canvas used by milliners, square in mesh and light in weight, which may be used instead of the filet canvas formerly imported from Germany.

BEADS

Wooden and glass beads of various sizes have lately supplied a distinct decorative note in basketry, embroidery, crochet, and several other crafts. Since the war, beads have greatly increased in price, and many substitutes have been evolved. The first of these is clay. Any size or shape of bead may be modelled from clay, pierced when it is wet, and painted with opaque water colors. There is also the medium known as Permodello, a preparation which keeps moist in the can for an indefinite period, but when exposed to the air it becomes like stone. Beads of all kinds can be modelled from it, painted with opaque water colors when moist, or with enamel paint when dry.

There are many seeds such as beans, pumpkins, cannas, Job's tears, etc., that can be pierced when green, and afterwards dyed or painted. Beads can also be made from strips of painted or printed papers, twisted about a hat pin and shellaced. Tiny sea shells, pierced and strung have also a decorative value. So have small spools upon which button twist is wound. These may be painted in brilliant colors and strung upon cords, etc. Beautiful beads are also made of colored sealing wax.

OBJECTS SUITABLE FOR DECORATION

While all objects are not better if they are decorated, still there are many common "containers," such as biscuit boxes, tea boxes, paraffin quart cups, ice-cream holders, olive bottles, etc., which may be transformed from their humble origin and office, and transferred from the scrap heap to dignified

and beautiful service. There is danger, however, of a return to the decorative dark days of the eighties. Let us, therefore, subject each article brought to the transforming table to the following tests:

1. Is the object beautiful in proportion and shape?
2. Does it suggest the intended use?
3. Will it be more suited for this use, and more beautiful as an object if it is decorated?
4. Will the proposed scheme of decoration transgress any principle of design or of color harmony?

The foregoing suggestions are typical of the many devices for economy which will inevitably occur to teachers who are limited as to materials and funds, but whose enthusiasm for practical art is unbounded.

Department of Home [Making

Conducted by

FLORENCE E. ELLIS*

PONDS—A ROCK AND WATER GARDEN

WHY not have a little of the country in our yard? The spirit of it at least is not so difficult to achieve as might be believed.

Many city gardens have formal ponds and they are beautiful, but for the unpretentious home, if space permits, a naturalistic treatment is fully as charming and gives more the appearance and feeling of the real country.

A small pond is a possibility for almost any home. The expense is moderate, the amount of labor necessary for its construction is not great, and the

real joy it affords is immeasurable.

The æsthetic value of such a pond is its great recommendation but not the only one. It attracts birds to our garden, makes an admirable drinking and bathing place for them where they are so useful in protecting plants from insects, bugs, and worms.

But some one says, water brings mosquitoes; true, yet this no longer troubles us for a few gold-fish or frogs soon destroy their larvæ, and aquatic vegetation keeps the water fresh and wholesome.

*Subscribers are invited to send material for this department thus making it mutually beneficial through exchange of ideas and experiences.



1. TROLLIUS OR GLOBE-FLOWER IN A LOW FLOWER BOWL.

How wondrously beautiful is the pond! The clear water reflects heaven into our garden and into our very souls—a bit of heaven brought nearer us. In fair weather we see in it the blue sky, at night the moon and stars. On its edge flourish iris, rushes, water-lilies, cowslips, mint, horse-radish—interesting water plants innumerable, and their numbers and charm are duplicated in the water below. Birds flit across its surface, light on the lily pads, drink, bathe, and pour forth their sweetest, happiest songs in joy and gratitude.

A pond formerly seemed such a complicated, uncertain thing to most people

—the greatest fear being that winter would cause its ruin. Now that mere novices have ventured and succeeded and it is proven such an easy thing to do we need no longer hesitate.

The informal, naturalistic pond is easier to construct than the formal one, in that any irregularity in form only enhances its charm. Mechanically its construction has fewer difficulties, but from an art standpoint it possibly requires more careful study for pleasing composition than does the more formal one.

Having decided where the pond is to be, its size and proportion, the excavation is made to a depth of from two to three feet in the center, with sloping sides, the slope not less than forty-five degrees, to give the required resistance to frost and ice.

An extra excavation of about six inches is allowed on all sides for thickness of concrete walls.

The concrete is composed of four parts of coarse sand to one of Portland cement. The sand is often equal parts sand and small rocks graded from gravel to inch-sized stones.

A tight mixing board about seven feet square is needed. Mix a small amount of concrete first, in a dry state, and thoroughly, until it is of an even color. Add water until the mixture is soft and pasty, but not sloppy; continue mixing until it is of an even consistency throughout.

The earth must be thoroughly compacted for a foundation for the concrete, and well sprinkled but not made muddy, before the concrete is put in place. The earth must be just moist enough not to absorb the moisture in the concrete. Often a pond is lined with a few inches

of cinders pressed down solid into the soil before the concrete is placed.

If one side of the pond is a little lower than the others it gives an outlet for the overflow of water and this can be carried to other parts of the yard.

Many ponds made in such a simple manner have proved highly satisfactory. If small cracks occur from frosts or other causes they are brushed over with cement and water; if larger ones come they are chiseled out and plastered with a mixture of three parts cement and one of sand. Too rapid drying sometimes causes shrinkage cracks. If possible protect the concrete from the hot rays of the sun until hard, which takes about four days.

If the concrete rim extends six inches on the outside edge it holds the sod and gives a more natural appearance.

A small drain pipe in the bottom of the pond can be connected with the sewer to empty the water—but there are many successful ponds without drainage and they are siphoned out with a hose at the end of the season. If cleaning is necessary at other times the water can be merely flushed off at the top. Goldfish do much better when dirt is allowed to collect, and the water plants keep the water fresh.

To construct a formal pond a framework must be placed to hold the concrete until it hardens, then the boards are removed; but nothing of this kind is needed with the more naturalistic pond.

Several small pools of varying sizes and connected by channels are very lovely. If these small pools are long, narrow, and each succeeding one is on a lower level, larger and deeper, it gives something the appearance of a brook emptying into the largest pool. When the concrete basins for these pools are



II. CAMPERNELLE JONQUILS HELD IN A NEDOMÉ.

finished, line the connecting channels with concrete. Stones and water plants complete the naturalistic effect. A small rustic bridge across the brook is very effective.

Nothing could be much more attractive than such a water garden, and the study of aquatic plants and life it affords is fascinating. During most of the summer the water will be quiet and warm—just the right condition for a flourishing growth of water plants. A lantern hung over the pond enhances greatly the beauty of the pond at night and attracts insects which fall into the pond furnishing a feast for the goldfish.

Can anything be imagined which will furnish greater mental rest and relaxation than such a garden—that will be more soul refreshing, more quickening



III. LONG-STEMMED TULIPS.

to the imagination, than the wonderful inspiration of beauty so exquisite!

FREEDOM IN FLOWER ARRANGEMENT

A member of the great circle of readers of THE SCHOOL ARTS MAGAZINE asks for suggestions as to the "arrangement of bouquets of flowers." The old fashioned bouquet was an indiscriminate mixture of flowers crowded together in such a way as to make a blotch of form and color. If we are to get anywhere in our appreciation of the decorative uses of flowers we must realize that when flowers are cut from their natural supports and placed in jars for display a picture is made in which the tints and lines of life take place of the pigments of the artist. If the picture is to be successful there must be an understanding of the spirit of the plant chosen and an arrangement of

branches and flowers that corresponds to it.

The great charm of most growing plants is found in their free exposure to light and air. Leaf, twig, and flower reach freely out into space with no suggestion of cramped confinement. So in our use of cut flowers we should try to attain this natural freedom, giving to each blossom room to show its grace of form and tint, rather than merely to make a blotch of color by an indiscriminate crowding.

It is the instinct for such natural display that has led the Japanese to use so largely the metal holders called *nedomés*. These *nedomés* are simply rust-proof plates of metal so welded together that they afford places in which the bottom ends of cut-flower stems can be thrust to hold the branches in position. Perhaps the greatest advantage of the use of them is that it enables one to use low broad jars or flower bowls from which the stems arise in most attractive fashion. This fact enables one to give to each particular plant a position that corresponds to the spirit of its growth, with a similar degree of freedom for leaf, bud, and blossom. One can thus follow indoors the spirit of the changing seasons outdoors, from the charming daffodil pictures of May to the last wild flowers of October.

By a little care in adapting the receptacles to the flowers one can easily get compositions in which the rhythm of line holds throughout. Thus, in the accompanying picture of globe flowers or *Trollius*, Plate I,—one of the most attractive blossoms from the June gardens—each flower echoes in miniature the curving lines of the low round bowl as the curves of the stems repeat the curves of the upper margin. On the other hand the picture of campenelle jonquils, Plate II, shows the repetition of nearly straight lines throughout and the general outline of the composition repeats the outline of the receptacle.

Without the use of *nedomés*, however, and with the ordinary tall vases to which we are accustomed one can get natural displays that reveal the charm of leaf and flower if we will be content with one kind alone and few of that kind. Three such long-stemmed tulips as are shown in a vase, Plate III, that embodies in outline and decoration the clean cut lines of leaves and stems, reveal their beauty to a much greater degree than would a dozen crowded together in a larger receptacle.

Clarence Moores Weed, Lowell, Mass.

Department of Costume Design

Conducted by

ANNA L. COBB

WHY WE SHOULD CONSERVE AND STANDARDIZE DRESS

AT the end of an analytical and at the same time somewhat humorous article *explaining* women's dress, published a short time ago, there appeared the optimistic statement that "the unpracticalness of present day styles for women would gradually decrease and eventually disappear." This prophecy was preceded by the assertion that "People are gradually perceiving that to be idle and useless is to be vicious."

Any sudden change in attitude towards dress, whether caused by philosophical reasoning or by puritanical moralizing arouses little or no attention from women in ordinary times. Passive acceptance of censure and commendation has marked the course of costume criticism at all times. It is true that when statesmen have overreached the mark in Sumptuary Laws by imposing them capriciously or perpetuating them as reformatory measures an active resentment has been shown. It is also true that there is suspicion of men's motives whenever they advance reasons for economy or conservation in women's dress, the "unlovely results" of adopting their severe and monotonous attire not having, up to the present time, enhanced woman's opinion of either their reasonableness or taste. In the matter of dress women have "walked the thorny path of *experience*" and can, therefore, calculate to a nicety its value as adornment and its cost in terms of money, time, thought, and energy. In the matter of Fashion they

have been more dependent. Influences which establish styles are so complex and subtle that few can analyze them; few can separate trade conditions from economic pressure—or political expediency from national sentiment. This would require deliberate reasoning after the study of endless statistics and women can seldom be coerced into reasoning about clothes until awakened to a threatened disaster. To measure industrial demand and compensation this sort of analysis is imperative in the business world. Women nowadays are involved in industrialism and must cease to play the game of dress as if it were merely one of Nature's own to be played in Nature's way. History proves to us that violent revolutions in modes of dress have suddenly taken place in response to revolutions in thought and sentiment. In fact most crises in history are marked by costume changes to meet new situations and women in these reactions have usually forced the change. Popular enthusiasm will do more to cause a prevailing mode to vanish and to establish a new one than any calculated business scheme will do, although business is quick to meet and even anticipate every change. Its existence depends upon its alertness in these matters.

The present stupendous struggle on the part of men and women in America to attain, with their allies, a more exalted civilization in which all nations may claim comradeship, has certainly



EARLY 15TH CENTURY. The 15th Century is the end of the period known as the Middle Ages. Extravagance and splendor the keynote in costume. Long draperies and rich fabrics. Many forms of sleeves, some so long as to fall to the ground when draped back over the hand, displaying bright linings. Also slashed drapery, known as "Dagged." The remarkable head-coverings an example of the caprice and frivolity of the times. These lasted seventy-five years, from 1395 to 1470, and comprised a large variety of forms—conical, steeple, horned, etc., with draperies cascaded over wire forms, a yard wide, or a yard high.

THE MAN: Armor N3; Tunic with dagged edges B $\frac{3}{4}$; Girdle YYR $\frac{7}{8}$; Shield Band R $\frac{1}{4}$.

THE WOMAN: Hennin, or head covering and collar, White; Gown and bandings, Gold, with B $\frac{1}{2}$ and R $\frac{1}{2}$; Dress R $\frac{1}{2}$ brocaded with B $\frac{1}{2}$ and YYR $\frac{7}{8}$; Girdle and lacing YYR $\frac{7}{8}$.

supplied sufficient emotional force to cause reactions in thought and conduct to every old order of things. Expediency may have initiated reforms but enthusiasm for righteous principle quickened them. As food, coal, and other materials have been reorganized as to production and consumption so should dress, an enormous absorber of both material and labor, come under investigation. It is time that women enlist the time, thought, and energy necessarily given to clothes at all times, in service of dress from a war point of view. Fortunately this does not mean sacrifice of any of the qualities in dress that define charm or beauty.

Consistency being a primal principle in art, it will follow that costume consistent with existing conditions cannot fail to be satisfying. What are existing conditions at present? They are highly emotional and tensely economic. An ethical and social revolution is in progress, as well as political ones. The idle, useless, and, therefore, vicious people are condemned. It is a unique reaction to the *laissez faire* attitude of a short time ago. Consistency demands that clothes become a *Symbol* of this reaction. Service and simplicity should be synonymous. Fortunately the two meet in perfect compatibility within the field of art. What artists have wished and worked for during many years may finally be accomplished by the utilitarian demands of war and may thus become one of its compensations. Efficiency for service will require the disappearance of distorted silhouettes due to excess material and of pointed toed and high heeled shoes that prevent free, swift, and painless progress. Superficial accessories that confuse attention and disturb harmony

should not be in evidence at any time; in war time they are "vicious." Materials consistent with surroundings, climate, and occupations should be adopted. This means that white or light shoes should not be seen on unclean streets nor in ill kept public vehicles and that transparent fabrics, better suited to theater or dance use should not be used for school, shop, nor office wear. These are but a few of the absurdities that have dominated Fashion for a long time and which good taste as well as expediency demands to be removed so that materials and modes may be employed, consistent with conditions that will permit the regeneration of women into artists in matters of dress. Their morale as efficient servers in times of national crises may at the same time be secured and strengthened. The economic and artistic will thus progress side by side.

Those who think at all about the matter feel safe in predicting that volunteer saving of fabrics and labor means wisdom. Government conscription of both may be inevitable. Silk, linen, and fine Sea Island cottons are needed for aeroplanes. The first two for service planes, the third for practice planes. Wool and leather in enormous quantities are needed for the army. Is it not travesty on women's loyalty that when these things are most needed for humanity's sake, that fashions in shoes require more leather than ever before and that sweaters suddenly assume an importance in the wardrobe never known before?

A few manufacturers have recently been interested in the idea of standardizing business and street dress for women. Women's clubs have also exploited the idea. They have proven the



LATE 15TH CENTURY. By the end of the Century, eccentricities gradually disappeared giving place to a quiet dignity and grace. Dresses fitted easily, full skirts were looped up, and a small cap fitted closely to the head. Man's costume consisted of "Doublet and Hose." The Italian influence of this time was the beginning of the Renaissance, which flourished in the next century. The end of the 15th, and beginning of the 16th Century was a period of transition.

THE MAN: Doublet—Undergarment, with the sleeves, White; Jacket or jerkin, and cap, R $\frac{1}{2}$; Trunks, stripes of White and R $\frac{1}{2}$; Leathern hose, YR $\frac{1}{2}$; Boots, YR $\frac{1}{2}$; Band with slashes R $\frac{1}{2}$; Cape, R $\frac{1}{2}$; Linings B $\frac{1}{2}$.

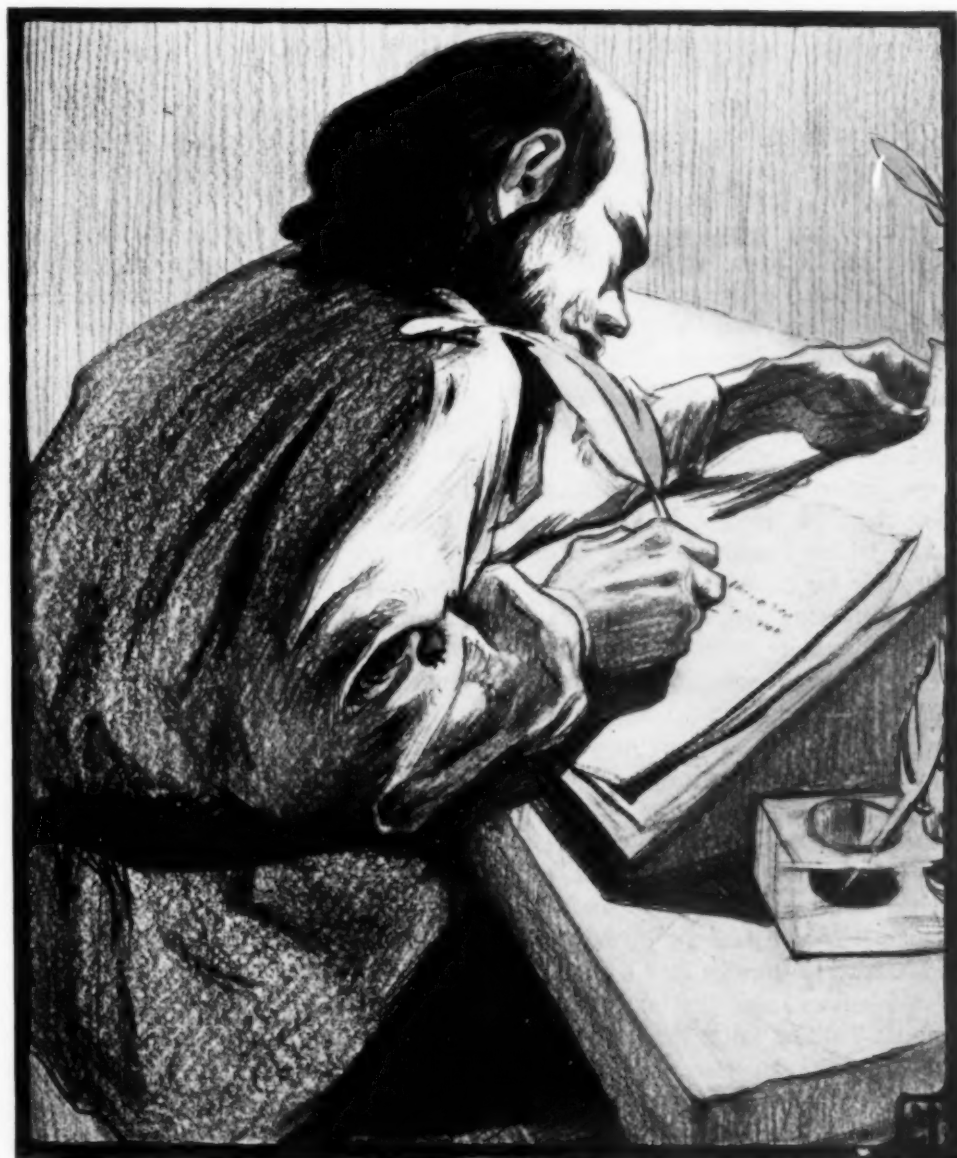
THE WOMAN: Gown, B $\frac{1}{2}$, embroidered in Gold and Y $\frac{1}{2}$; Sleeves and puffings, White with bandings of R $\frac{1}{2}$; Underskirt, R $\frac{1}{2}$; Cap, White, Y $\frac{1}{2}$ and Gold with ribbons R $\frac{1}{2}$.





desirability of the idea with three arguments that have a cash value to wearers of factory-made garments. As garment making is a seasonal trade it follows that manufacturers and workers are often at a loss in adjusting the wage earning scale. Standardizing of women's garments would permit manufacture of them on terms more like those secured to factories with an output of male attire. (1) Manufacturers could use their plants to advantage through what are now dull seasons. (2) Workers could secure more continuous employment and as a result more equalized earnings. (3) The business market would react favorably to more even industrial activity. The first two statements are sufficiently obvious; the third may need some explanation. To avert serious loss at the end of a season it is necessary that manufacturers and merchants add to the production cost of garments certain sums, carefully calculated, to cover trade losses that result from various causes. Rapid style changes and deterioration because of handling are but two of the reasons for depreciation of stock. Business safety demands that initial selling prices protect the reductions that result in course of time. The secretary of one of our largest and finest factories recently stated that at least thirty-five per cent of the purchase price of a garment could be saved if women accepted the idea of a reasonably few types of garments that could be used for a reasonable number of years as standards of suitability to purpose and of excellence in cut and make.

The economic desirability of the idea is not even debatable. The artistic

desirability is also obvious to those who think clearly about it in terms of basic principles. If consistency with prevailing conditions is a fundamental principle, if suitability to use and surroundings, and harmony of individuals with groups mean laws that result in orderly adjustments, then the Idea of standardized dress demands thought and interest on the part of all women active in the affairs of the world, those exempt from the "viciousness" of idle, useless living. The æsthetic demands of women need not be ignored. Monotony of form and color is not necessary, and the "unlovely results" of man's utilitarian costume need not be repeated. Femininity need not be sacrificed. Masculinity has never been measured in terms of cloth and cut. Personal charm or attractiveness may be enhanced by clothes but is never dependent upon them. Physical and mental qualities determine individual attraction and although "Nothing of us belongs so wholly to other people as our looks" it is the unity and consistency of our clothes with our person and surroundings that defines the desirability of our "looks."

It should be the privilege of art teachers everywhere to incorporate the principles of art into the study of clothes if for no other than patriotic reasons so that "sweet reasonableness" to symbolism in dress may permeate selection of type, materials, form, and colors on the part of our young American women. It is due them that our educational plans should aid them to properly express in clothes the marvelous experience they are now having in "making Democracy safe for the world."



**To form certain letters
afforded him special
satisfaction**    

AN ILLUSTRATION for Gogol's "The Mantle" executed in black and white by Miss Cora Holden, of The Cleveland School of Art.

355

School Arts Magazine, April 1918

EDITORIAL OUTLOOK

THE surprise and shock of war has left us neither insensible nor impotent. We have experienced both intense emotions and violent reactions to them. We have felt for a time as if reconciliation between this present chaos with its causes and our former ideals regarding harmony and co-operation with other peoples for mutual benefit was impossible. To our credit, however, we may justly claim that from these disturbances of mind and spirit there have developed "Strong beliefs out of which vigorous actions spring," that may be trusted to restore equilibrium between the ideals of humanity at large and its activities. Narrowed down to the observation of our own affairs we also find that our viewpoints have shifted and that our outlook has grown larger because of the influence of these new convictions.

Despite the shattering of all our former formulas for progress and prosperity there survives sufficient confidence in our American inventiveness and energy to urge us into a campaign to "conserve and further American promise." The faith we have in the latent talents of our youth, in the potential creative power of our girls and boys, and in their willingness to respond to worth-while guidance and help in a worthy way gives us assurance that the task we have set ourselves in this campaign is certain of accomplishment.

Even if we are forced to agree with George Moore who said in a conversation that "Art is dead.... Only one great artist is necessary to save the self respect of a nation and you Americans

have produced two—that is enough," we would emphatically disagree with any contention of his that Art will stay dead, or that America will be satisfied with Whistler and Whitman only as adequately expressing America. The new spirit as it develops is not individualistic. The war has for the time being made it decidedly nationalistic and national ideals and national activities are the two motives that will merge into one sufficient unto itself that will demand expression. We shall have to get better acquainted with it, discover new ways of seeing it in relation to nature, acquire fresh visions regarding it, and devise new formulas for its interpretation.

The problem is one for all to master, not for leaders only. "Get together" has always been a valuable slogan in arousing energetic action. "Help the other fellow" is more than the generous slogan it sounds. It is a wise one. It implies a fellowship of ideals and effort that becomes beneficent in both directions when co-operation is required. And co-operation is necessary where common interests are involved.

Those of us who share these beliefs and are willing to work in their behalf should establish a liberal interchange of views and visions so that every possible process by which the creative spirit of our American youth can be quickened may be devised and developed. We must stimulate the imagination and inventiveness of our young people if we hope to safeguard for the coming generation our national life, its labors, and its art.



APRIL						
SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
EASTER						
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Lake Merritt
Looking toward St Paul's
Church

A CALENDAR for April (last
year) showing a landscape in
pen and ink by Mr. Lemos.

Good Ideas from Everywhere



We welcome not only illustrated accounts of successful lessons for this Department, especially from **Grade Teachers**, but requests for reference material that will prove helpful for the **Alphabeticon**.

THE EDITOR.

FIGURE COMPOSITION. The decorative arrangement of the human figure within a definite shape and space is the problem solved by Cora Holden of The Cleveland School of Art in the composition shown on page 355. The study is also one of illustration and the selection and organization of the elements used are particularly appropriate to the subject. The treatment of line and mass is well managed and the mediums used have permitted free interpretation. Ink and wax crayon have combined well within this composition. It is important that careful drawing should distinguish a study of this sort. We need more attention to this aspect of art study in our schools if our commercial posters and advertisements are to have any distinction or quality.

CALENDAR DESIGN. The landscape composition used as a calendar decoration which is reproduced on page 357 shows a fine appreciation of the anatomy of trees as well as of their decorative possibilities. This design was made by Mr. Pedro J. Lemos, Director of the Museum of Fine Arts, Stanford University, California, who also loaned the plate from which this print was taken. As a landscape composition it is most satisfying and proves that where a discriminating judgment is used in selecting and arranging Nature's materials a fine decorative result may also be obtained.

PLANT LIFE. The sixth in a series of drawings of Southern plants sent by Prof. Ellsworth Woodward is reproduced on the page opposite. This drawing shows the cotton plant with a fine strength and vigor of growth in the lines and masses of its stem, flowers, and seed pods. Suggestions for design motifs are numerous. The type of pattern developed after study of this plant should show its simplicity as well as its strength in order to be attractive. It is well worth study in our schools.

The Spanish Chestnut, indigenous to more Northern climates, shown on page 361 was drawn by Mr. R. James Williams, of Worcester, England. It shows careful analysis and rendering of both the general structure and details of the stem, flower, and fruit. The

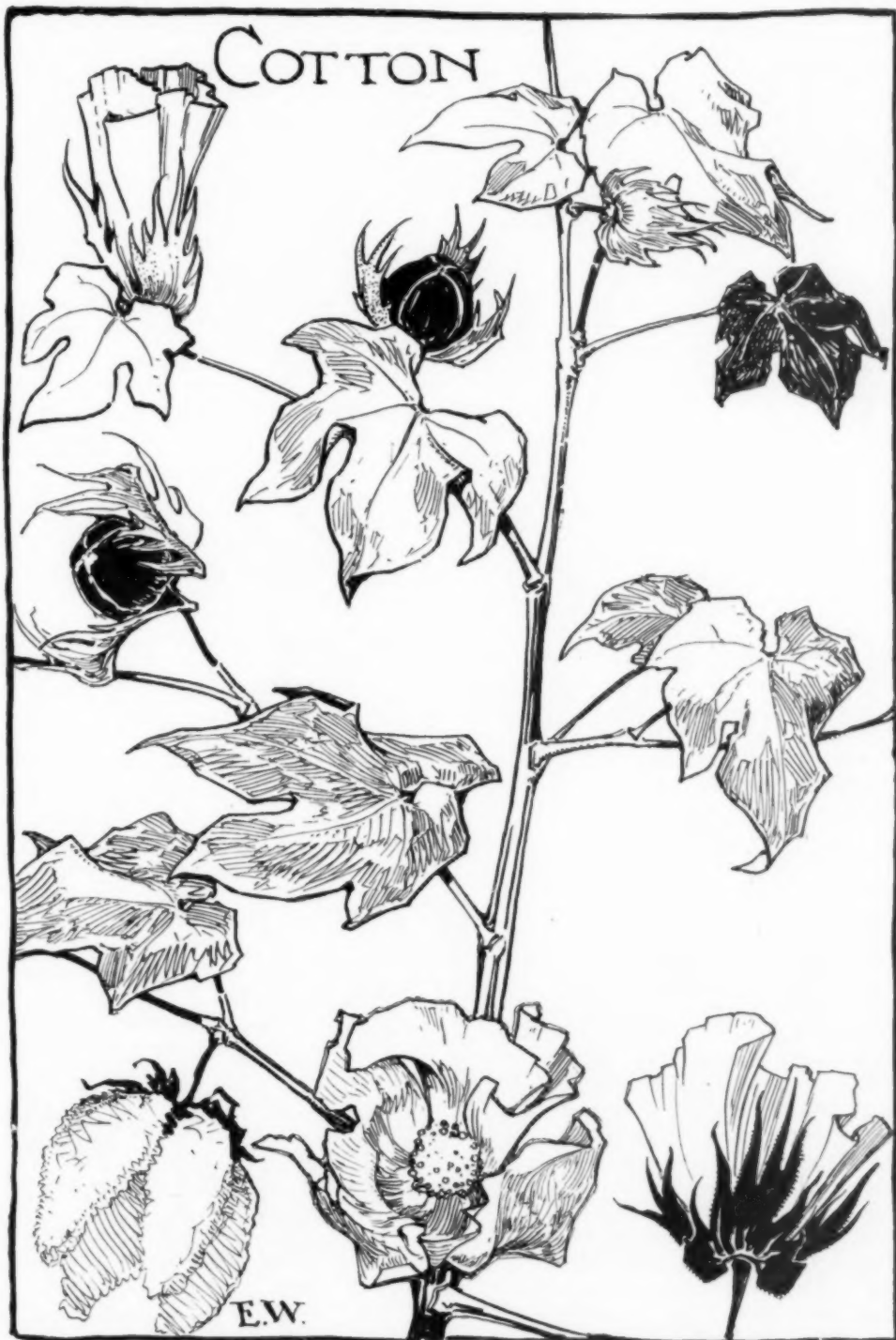
excellent adaptations to special decorative projects shown on the same page suggest many other possibilities for its use in applied design.

COMPARATIVE STUDIES. There is no such thing as a tree, or a bird, or an animal. There are pine trees and apple trees, poplar trees and peach trees, but never an abstract tree,—except in the pictures of those who are either ignorant, or "old masters." Children draw abstract birds, but nature makes only particular birds like bluebirds and robins and mockingbirds. The student should be humble for a long time and content to learn from nature one form at a time or one detail at a time, until his mind is stored with faithful images of the facts. As Mark Twain said to Kipling, when Kipling visited him and found him reading an encyclopedia through, "First get your facts; then you can manipulate them to suit yourself." Sheets like those reproduced on pages 363 and 365, are of immense value to the growing mind. A beginning should be made with much simpler objects. In the elementary grades the pupils should make sheets of leaf shapes, flower shapes, fruits, seed packs, silhouettes of typical tree shapes, etc. In the high school, sheets of the rose as interpreted by different peoples for various uses, of the lily, of the lotus, of the acanthus leaf, of the grape vine etc. And then, such sheets as these showing studies of eyes, ears, beaks, wings, mouths, feet tails, color schemes, etc. The drawings reproduced on pages 363 and 365 were made by C. B. Perskie, a student in the Pennsylvania Museum School of Industrial Art, Philadelphia. The originals drawn in lead pencil, are fine examples of pencil rendering. The various textures are well suggested, and the handling is direct and forceful. The young artist, like Emerson's young poet should go about

"Pondering shadows, colors, clouds,
Grass-buds and caterpillar shrouds,
Boughs on which the wild bees settle,
Tints that spot the violet's petal,
Why Nature loves the number five,
And why the star-form she repeats;
Lover of all things alive,
Wonderer at all he meets."

Then later, like "a man that is a householder," he can bring forth out of his treasure things new and old.

H. T. B.



THE SIXTH in a series of Southern Plant Drawings by Ellsworth Woodward, Newcomb College, New Orleans, La.

HIGH SCHOOL ANNUALS



THE Shortridge High School of Indianapolis, Ind., had one of the most interesting high school publications of 1917. The illustrations reproduced on this page, were contributed by Miss Roda E. Selleck, Director of the Art Department of Shortridge, who was also responsible, as censor, for the quality of this excellent work. Miss Selleck selects an Art Editor who

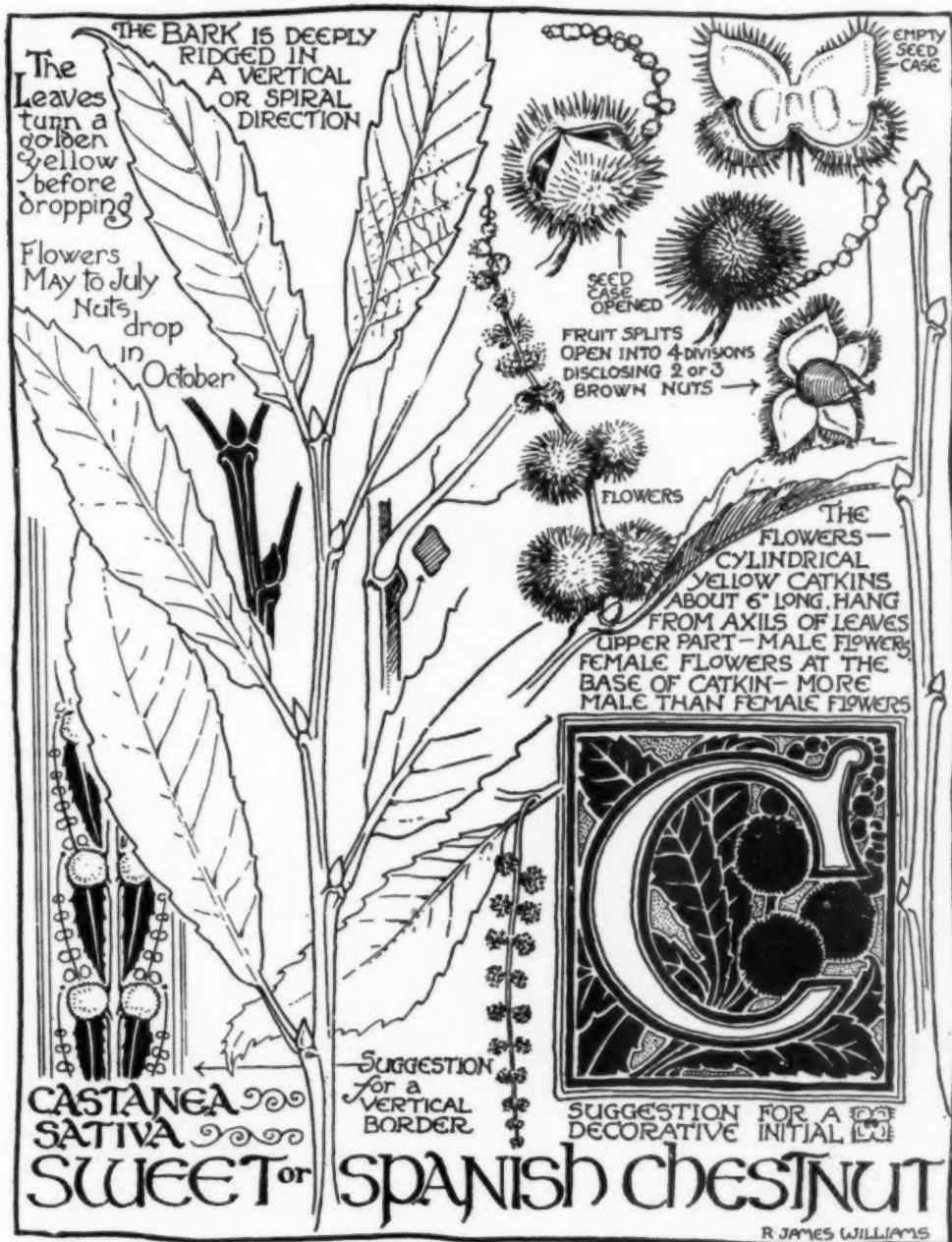
must be a senior, and who in turn selects the editorial staff. (The literary work is under the supervision of the head of that department.) "No one works on the staff who is not willing to submit his or her work to the most rigid criticism," Miss Selleck tells us, and continues: "All new thoughts are studies, and an ideal to follow is selected for lettering, style of illustrations, initial letters, tail pieces, introductions, and other forms of art work. The staff selects the cover and body papers and all printing is submitted to their criticism. The contents of the book are divided into four sections: the literary and historical section, the humorous section, the organization section, and the senior class section. These are each introduced by two well-drawn figures symbolic of the division to which they belong. The initial lettering is an important problem involving a story motif, the laws of unity and notan. The majority of the literary articles receive well-drawn and carefully composed head and tail pieces. All full-page illustrations are planned to be the most charming pages of the book. The pen and-ink work necessary to prepare drawing for the zinc plates from which the printing is made must be done in the most approved style and latest method of handling the pen. One or two wood block prints have been added to the book for inexpensive color pages and a real touch of the artist. The pupil designs, cuts the blocks, and with the censor superintends the mixing of

the ink and the printing. The form of the printed page, the style of printing, the arrangement of parts are closely watched by the art censor. The book sells to the student for fifty cents a copy, which by no means meets the cost of it. The advertising in the back of the book helps, and all other deficiency is met by the senior class. All photographs in the annual are made by a local photographer and the halftones are made and printed under our own supervision."

FOOD CONSERVATION POSTERS.

The posters reproduced on page 366 were contributed by Mr. John T. Lemos, Polytechnic High School, San Francisco, Ca., who also sent the following:





A PEN AND INK drawing by R. James Williams, of Worcester, England, showing the Spanish Chestnut and giving suggestions for its use as a design motive. This Plate shows not only a knowledge of the principles of design but a thorough familiarity with the processes of Nature as well. This page is one of a series by Mr. Williams, reprinted from "The Teachers' Times," an English publication.

POSTERS AND PATRIOTISM

In the days of ancient Egypt, the victories won by their fighting men were hewn by skilled craftsmen into stones and obelisks. Today, with the biggest war in history upon us, we find the poster a most valuable feature in the promotion of our share in it. Uncle Sam was quick to realize the value of the pictured appeal. So we have had posters: Recruiting Posters, Liberty Loan Posters, Food Conservation Posters, and now Thrift Stamp Posters.

It has been said that trade names, such as Uneda Biscuit and Kodak are worth millions of dollars to their owners. It can be truly said that the war slogans and posters put out by Uncle Sam have been worth billions to him in this war. Think it over, and you must admit that the picture left in your mind by some of the posters still remains, while the wording on those without pictures has been forgotten.

No more effective way can be found to interest the school children in our aims regarding this war than by that of posters. Many states have realized this and have held competitions among school children for War Posters of various kinds. Such a competition was recently held in New York with most gratifying results. San Francisco, always quick to reply to calls upon her in War Drives and Campaigns, recently held such a contest for posters. These posters were to be designed by high school students and were to be used in stimulating patriotism among the thousands of people patronizing cafeterias.

The competition was a most successful one, and brought home to the school children the value of wise choosing in buying their noon-day lunch. The first prize was won by Ernest Born, a student of Polytechnic High School. The honorable mentions were won by Ralph Pollack, Julius Goldsand, Lenona Grainger, and Myrtle Holman of the same school.

The Polytechnic students also carried out a poster campaign to help in the recent Y. M. C. A. drive. The school was divided into three sections,—Aviation, Army, and Navy. The members of each section rivaled each other for the number of pledges obtained from high school students. To stimulate interest, a large poster was made and divided into three sections. The top section showed an aeroplane among the clouds. This represented Aviation. The middle section showed

a soldier going "Ove the Top," for Army. The bottom showed a submarine chaser going after a U-Boat, for Navy. The aeroplane, soldier, and sub-chaser were made on thick cardboard and cut out, so that they could be moved. Whenever a section made progress in the number of pledges obtained, the aeroplane, soldier, or sub-chaser was moved along a corresponding distance. This war map was placed in the main hall, and stimulated interest so much that over \$1600 was raised in a few days. Y. M. C. A. officials pronounced it the best idea they had seen so far.

The best benefit of all in these poster campaigns has been the vital interest it has created among school children in the success of the drives for which they have made posters.

The coming Thrift Stamp Campaign offers a fine field for teachers to carry out poster ideas. The booklet in which the stamps are pasted has printed quotations on Thrift. Each of these can be taken and made the subject of a poster which may be placed in the main hall or assembly room to encourage students in this drive.

In high schools, if the art department is large enough, a poster could be made to place in each of the class rooms. These posters could be interchanged each week, so that every class would see all of the posters.

In grade classes, appropriate magazine covers could be cut out and used with the necessary lettering done in simple strokes or cut out of paper and pasted on.

Of one thing we can be sure, once get the school children in our big country personally interested and aroused in these campaigns, and the parents at home will back them up stronger than ever before.

FAIRY FLOWERS. The charming flower compositions shown on page 367 were designed, cut, and pasted by seventh grade children under the direction of Miss Nola Rearick of Lakewood, Ohio. Kindergarten papers of many gay colors were used but harmony of arrangement was insured by careful attention to values and intensities. The lower shape of paper established the outline of a flower and successive layers provided variety in form and coloring. The top one usually had well planned holes to permit delicate inner pattern. As valentines or greeting cards they would prove very satisfactory.



STUDIES of the eye. Pencil sketches by C. B. Perskie of the Museum School, Philadelphia.
363 *School Arts Magazine, April 1918*

NATURE STUDY with a *purpose* is illustrated on page 370 in the development of a problem as worked out in the 8th grades of the Newark, New Jersey, schools. The summer squash, a common garden vegetable, was selected for the motive. Drawings in colored crayon were first made in the good old-fashioned way. The drawings were made of the vertical and horizontal sections. Many designs were developed from these sectional drawings. The circular designs were used in making decorations for hats, dress-garnitures, etc., which were expressed in wool embroidery. Stencils were developed from the vertical sections. Knitting bags of interesting shape and construction were then made of a heavy, coarse, linen crash. The stencilled decorations were then applied with thin oil paint. The painted shapes were then enriched with a treatment of stitchery. The bags were lined with blue cotton poplin.

POSTERS AND PROGRAM COVERS. The Pacific Coast is again represented on page 369 by some fine examples of poster work. The lettering and spacing of these compositions are excellent. Miss Maude Waller, Supervisor of Art in Everett Washington, contributed these and says that they are the work of the art department students of the Everett High School. Another well designed program cover for the graduation exercises of the Pre-vocational Grammar School of New Britain, Conn., is shown on this page and was sent by Mr. Joseph L. Wiseltier, City Director of Art, whosays that credit is due Miss Dora Wetherbee who is the art teacher in the above school.

QUOTATIONS suitable to the month are always useful in the schoolroom. Here follow a few appropriate to the springtime:

And far up the rugged hillside,
Spring and Hope in every breath,
Pure and perfect, sweet arbutus
Twines her rosy-tinted wreath.

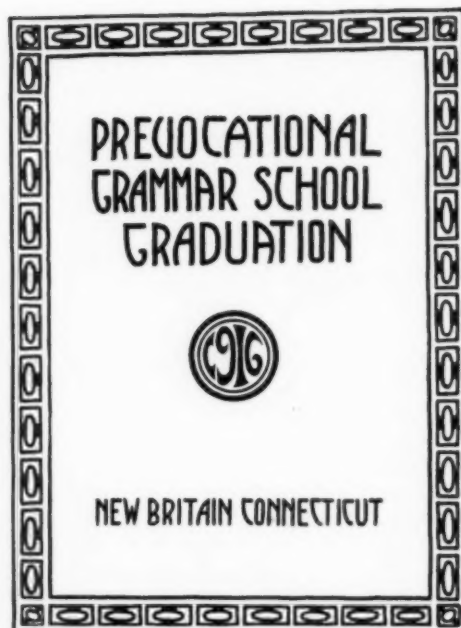
Elaine Goodale

The cowslips sit in golden crowds
Beneath dim April's frowning clouds.

Unknown

The crocus lifts its drowsy head
And stares with slow and wandering eyes
Into the changeful April skies.

James B. Kenyon



THE COVER OF A GRADUATION PROGRAM MADE UNDER THE DIRECTION OF MISS DORA WETHERBEE, NEW BRITAIN, CONN.

Sing a song of Spring-time!
Catkins by the brook,
Adders-tongues uncounted
Ferns in every nook;
The cataract on the hillside
Leaping like a fawn.

Elizabeth Roberts Macdonald

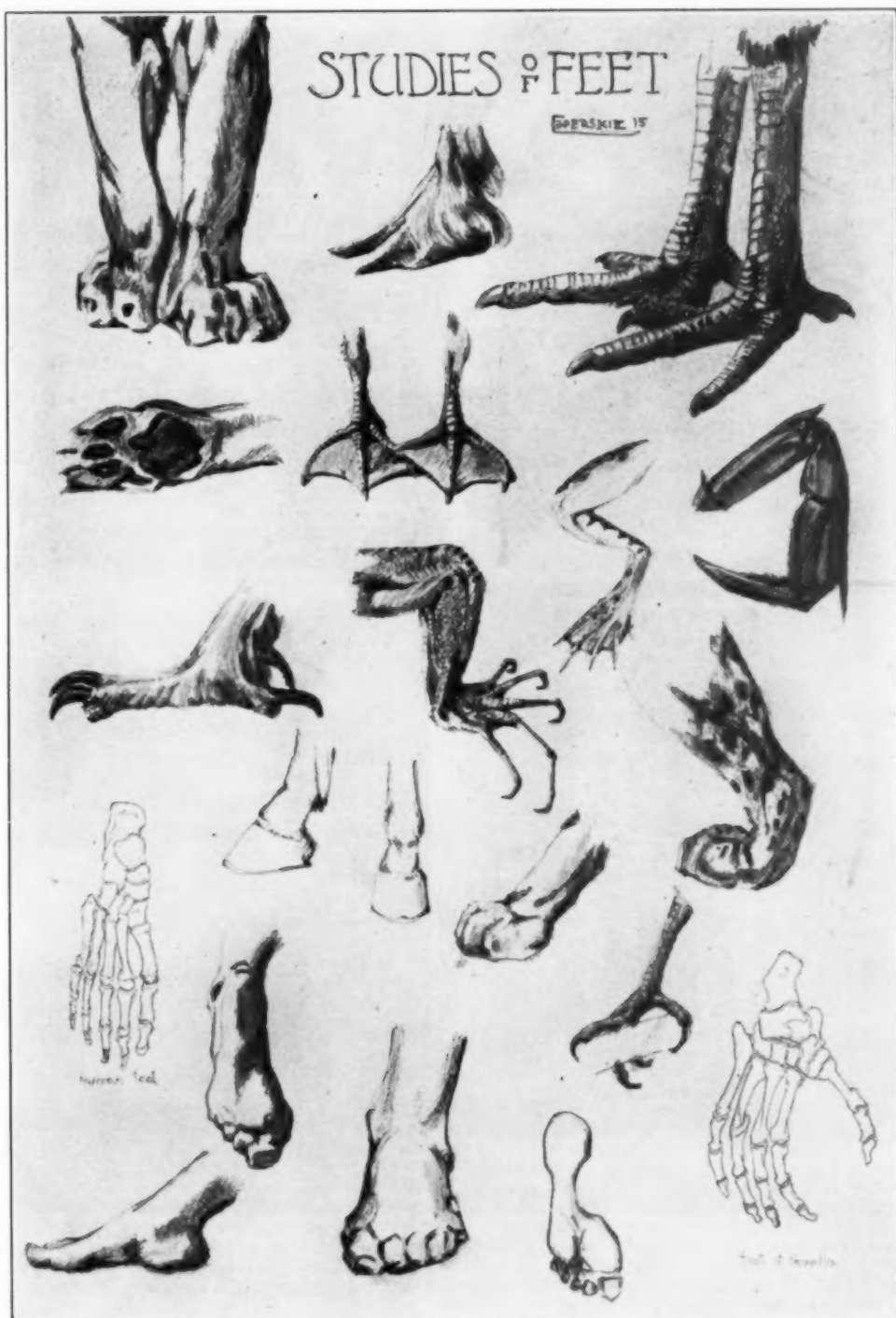
Now the tender sweet arbutus
Trails her blossom-clustered vines,
And the many-fingered cinquefoil
In the shady hollow twines;
Here behind the crumbled tree-trunk,
With the cooling showers wet,
Fresh and upright, blooms the sunny
Golden-yellow violet.

* * * * *
And in yonder marshes burns
The fiery-flaming marigold.

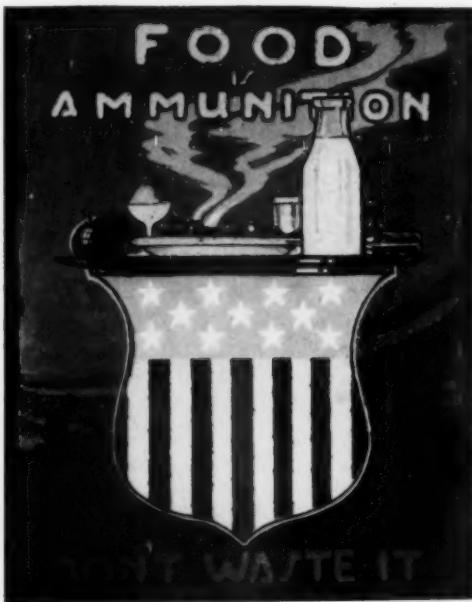
Dora Read Goodale

Little anemone
So frail and so fair,
Blooming so brave
In the cold spring air.
Sweet little messenger,
Coming to tell
Summer is coming
And all will be well.

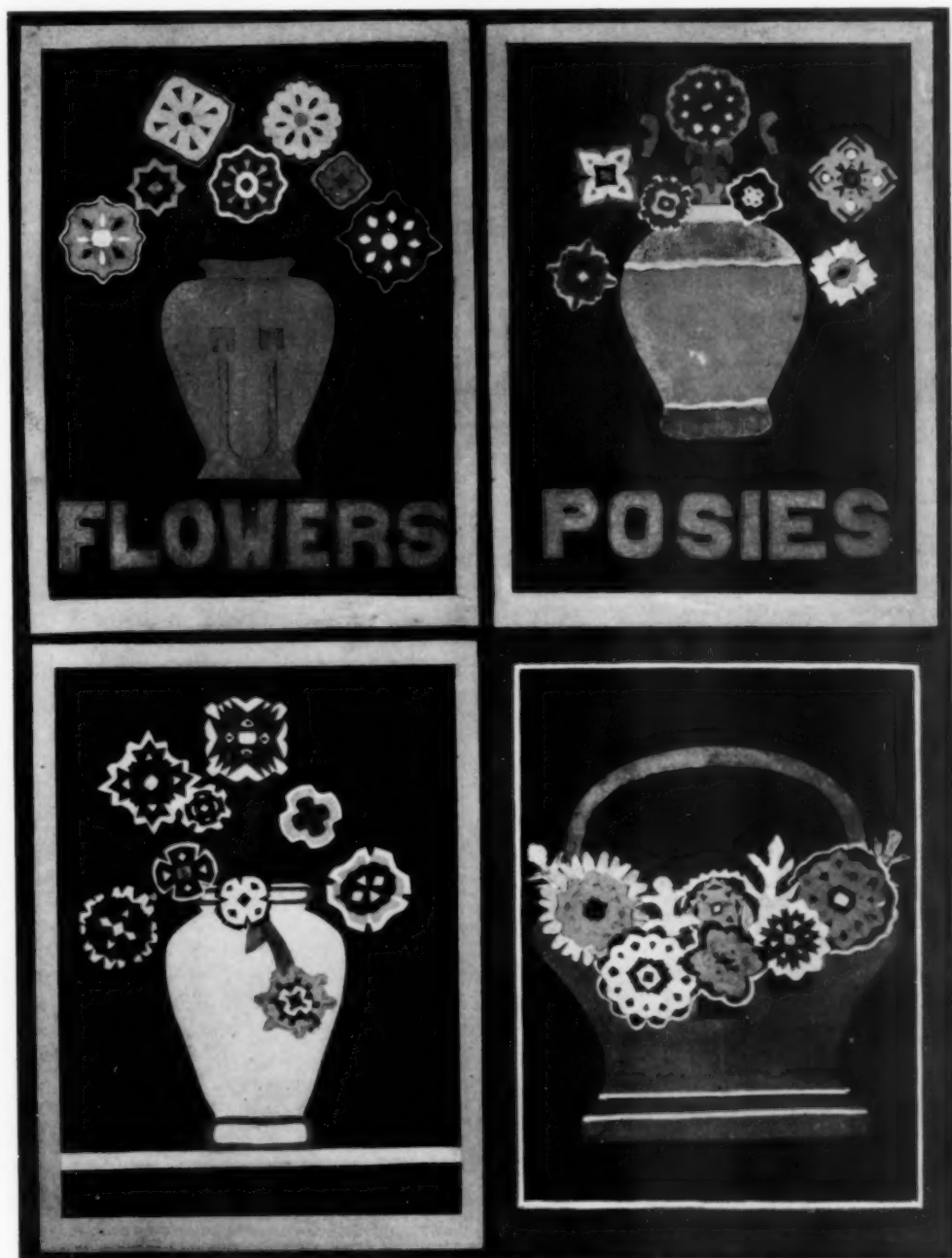
Unknown



PENCIL SKETCHES of feet by C. B. Perskie of the Museum School, Philadelphia.



FOOD CONSERVATION POSTERS made by students at the Polytechnic High School, San Francisco, California, under the direction of Mr. John T. Lemos. These won First Prize and Honorable Mentions in a recent competition. The winning poster, showing a machine gun in action (shown at the lower right corner of the page), has been printed and distributed throughout the state of California. To popularize the IDEA of Food Conservation for patriotic reasons the use of Posters such as these have a compelling power that is irresistible. A nation-wide response to the Idea would follow a widespread use of them.



"FAIRY FLOWERS" made by Seventh and Eighth Grade pupils under the supervision of Miss Nola Rearick, Lakewood, Ohio. Economy of time and materials was emphasized when planning these "arrangements." Inventiveness was encouraged and mediums selected that would not overtax the technical skill of the pupils.



A CIRCUS PARADE AS WORKED OUT BY FIFTH GRADE CHILDREN IN STREATOR, ILL.

THE THEATRE IDEA found an outlet in construction work on the part of fifth grade pupils at Garfield School, Streator, Illinois, under the supervision of Miss Fanny J. Kendall. The result of the "George Washington as a General" pageant is shown on this page. The costumes and devices it was necessary to study created much enthusiasm for these details and were very instructive as well. The "Circus Parade," shown on this page, was developed by third grade children and the work on the construction of ferris wheels, calliopes, and other circus attractions were entirely original. It was made a community problem and was used as a "show" giving visitors as much pleasure as it gave the children.

CORRELATION between number work and design is illustrated on page 371 by the napkin rings and match scratchers on which patterns are made based upon one-inch measurements. They were produced by second grade children in the schools of Grand Rapids, Mich.

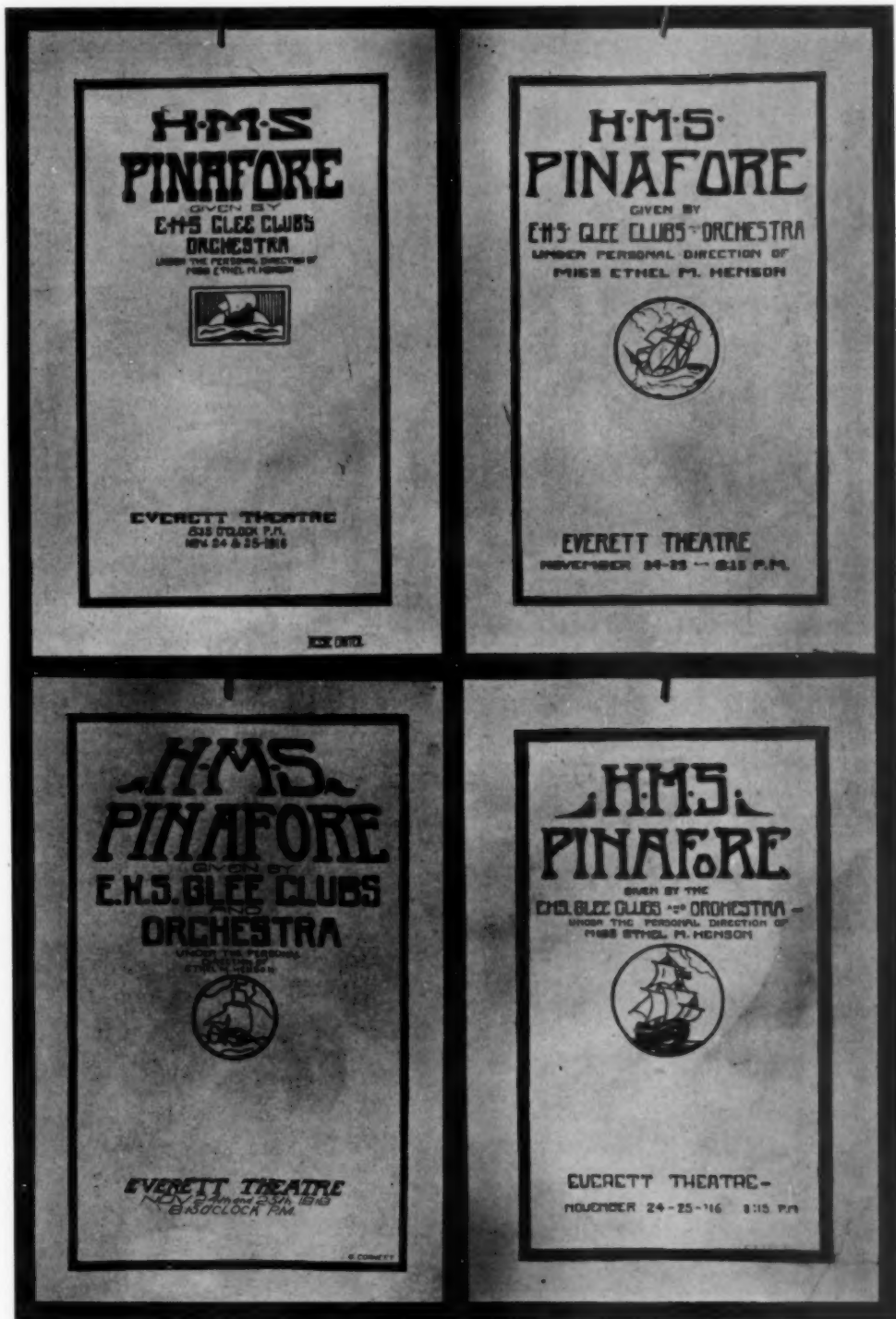
KINDERGARTEN PROJECT. The working drawing for a sand slide shown on



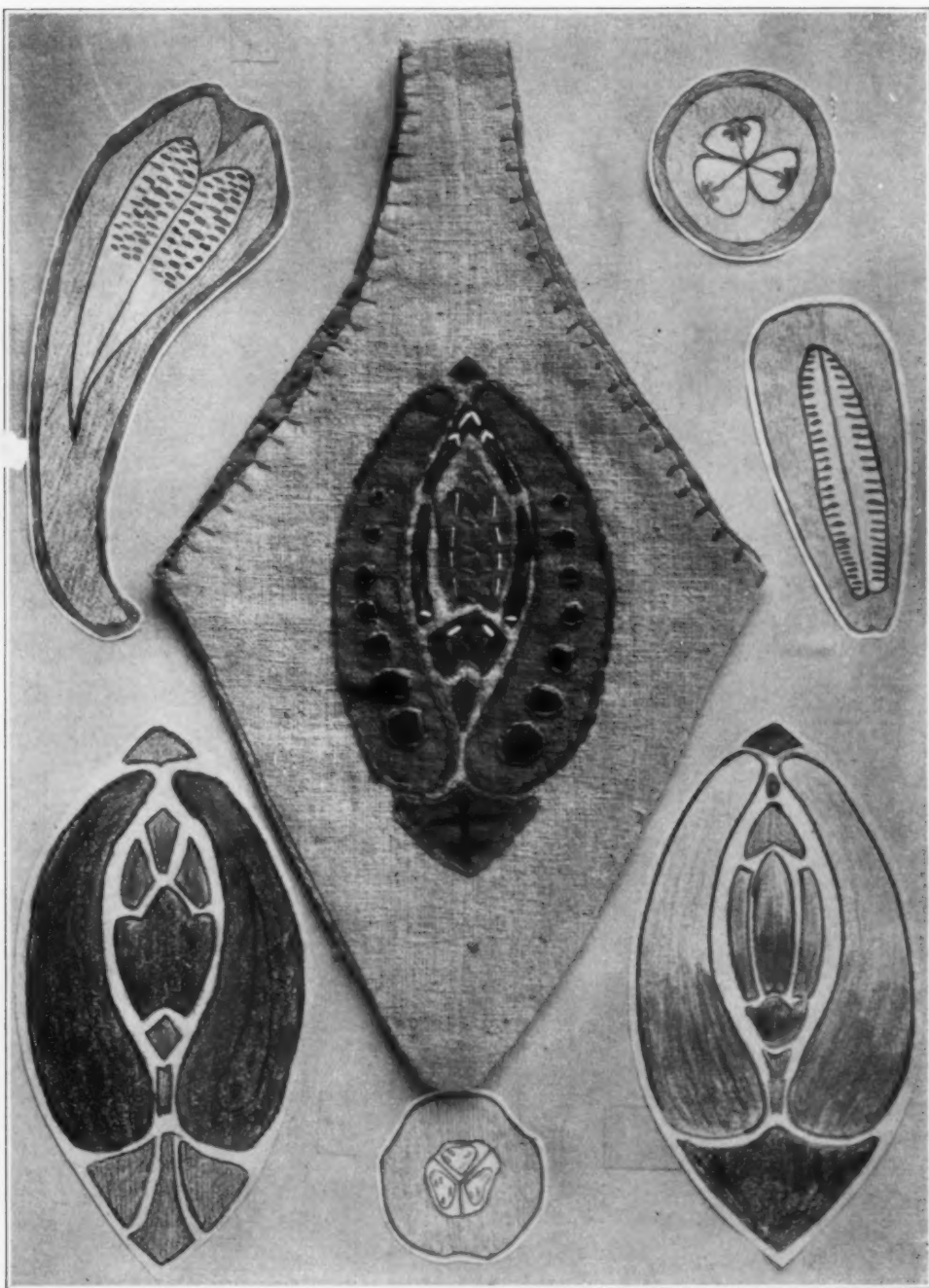
page 372 was developed and used as an occupation by Miss Maude Kittredge, of Providence, R. I. Cartridge paper 6" x 9" was used. The long edges were folded together and cut in halves. One half was used for the slide and one for the standard. For the standard the paper was folded in two parts and steps cut out of one half. For the slide one end was folded over about one half inch and corners cut away, the long edges folded back from cut to form upright sides. Children were given paper dolls to use with this toy

THE BEAUTY OF A STATUE, A COIN, OR A FLOWER IS THE SAME THING AS THE BEAUTY OF A PHRASE OR SENTENCE: IT REQUIRES THE SAME TASTE TO FEEL PLEASURE IN THE LINES OF A SEA-SHELL, OR A FIR-CONE, AS TO ENJOY THE MOULD OF A FINE SONNET OR THE BUILD OF A GREAT POEM.

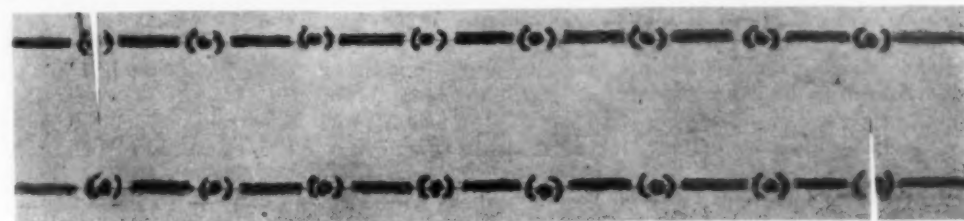
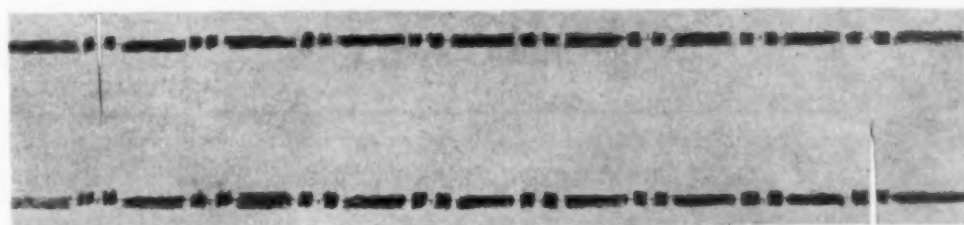
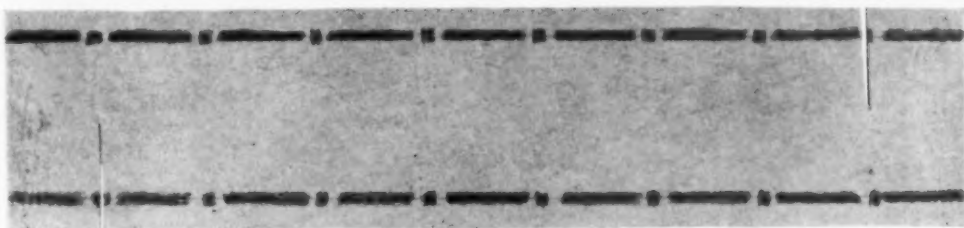
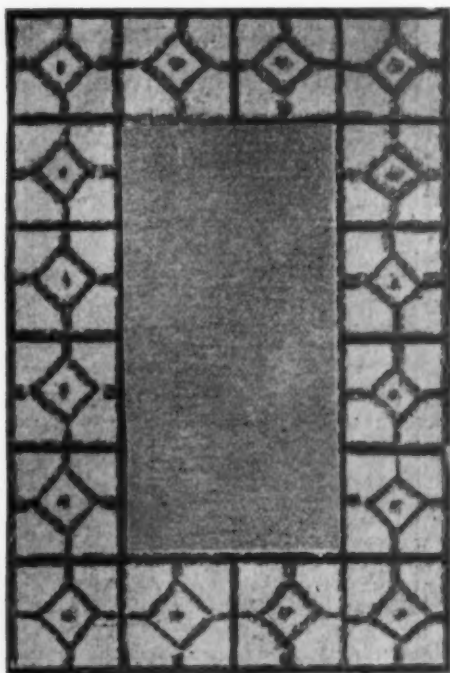
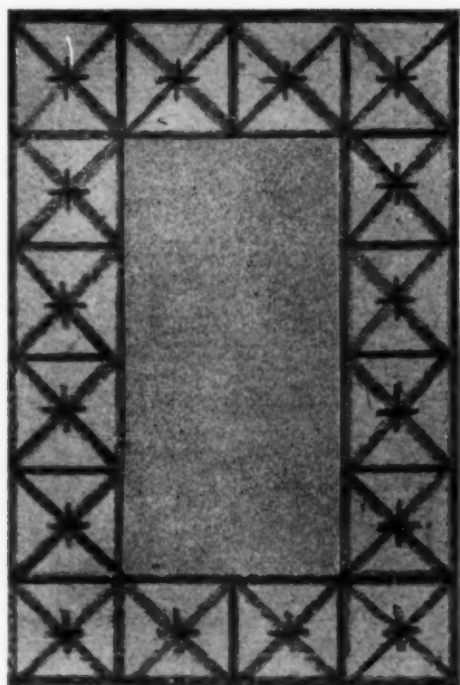
Alfred J. Butler.



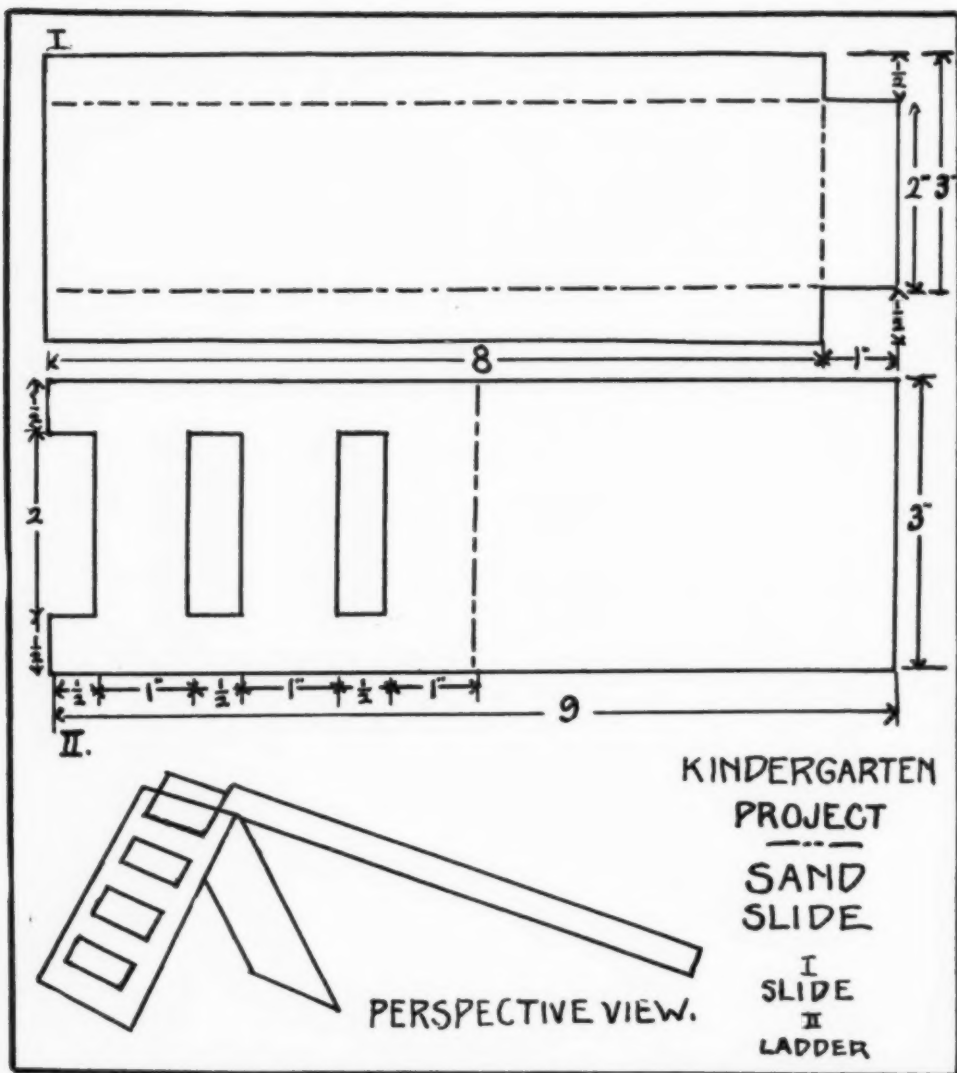
DESIGNS for program covers made by High School pupils in Everett, Washington, under the supervision of Miss Maude A. Waller.



A WRIST BAG having for its decoration a stencilled design derived from the summer squash. This work was done by Eighth Grade children in Newark, N. J., under the direction of Mr. Hugo B. Froehlich. The first step in the evolution of this Bag was made by sketching the Nature Motif in crayons.



DESIGNS for match scratchers and napkin rings of paper made by Second Grade children, Grand Rapids, Mich.



WORKING DRAWINGS FOR A SAND SLIDE AS MADE BY CHILDREN IN PROVIDENCE, R. I.

EDITORIAL NOTES

THE NATIONAL SCHOOL POSTER Competition is launched throughout the country in full force. For detailed information teachers should look to the art magazines, state directors for War Savings, and their several state committees.

The following is an extract from a letter received by Mr. Royal B. Farnum from Mr. Frank A. Vanderlip:

"I have your letter and the program for the National School Poster Competition. The program seems to me excellent. . . I would give

my whole hearted endorsement to the plan."

The chairmen of the poster committees for the several groups of states are as follows: Eastern Group, C. Edward Newell, Director of Art, Springfield, Mass.; Middle Group, Emma M. Church, Director School of Applied and Normal Art, Harvester Building, Chicago; Western Group, Arthur B. Clark, Director Art Department, Stanford University, Cal.; Southern Group, Ellsworth Woodward, Director Art School, Tulane University, New Orleans.

SPECIAL ATTENTION is called to the notes you will find in italics in some of the different departments of the magazine. If the magazine has helped you by printing the "Good Ideas" of other teachers, can't you help those other teachers by some of *your* ideas? Don't think the notes are meant for someone else; they are meant for YOU. All contributions should be sent to the Editorial Office which is in Cleveland. Do not send material to Worcester.

AN AMERICANIZATION EXHIBIT has recently been installed in the Carnegie Institute, Pittsburgh, Pa. While the idea has been tried in other cities the Pittsburgh exhibit was noteworthy. Many of the Schools had Community exhibits. The children brought wonderful things from home, the parents came to a social gathering at which the children appeared in the costumes of their parents, and gave folk dances, songs, etc. One school had an attendance of between three and four thousand in one evening.

THE PHOEBE BRASHEAR CLUB of Pittsburgh recently held an interesting exhibition of art needlework, historic costumes, and handicrafts at the Carnegie Institute Galleries. The Phoebe Brashear Club is composed of teachers who have received scholarships from the H. C. Frick Educational Fund Commission with Dr. John A. Brashear, noted astronomer, as President. One quarter of a million dollars was placed at interest for this purpose and the club, composing the scholarship teachers, named in honor of Mrs. Brashear. The Pittsburgh children also bought Dr. Brashear's home and it is now a Settlement House. One of the old shops is the Phoebe Brashear Club House for Girls.

TO HELP TEACHERS. Teachers who wish to interest their pupils in home floriculture and landscaping will find the circular on this subject prepared by the States Relations Service of the United States Department of Agriculture, helpful and practical. It gives outlines for a course of study and class room practice, and suggests methods for correlating school study with home practice.

To aid teachers of poultry husbandry in secondary schools, a specialist in the States Relations Service of the U. S. Department of Agriculture has prepared a teachers' guide on

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the raising of ducks, geese, and turkeys. Suggestions are made as to methods of presenting these subjects both in the class room and in the laboratory and study outlines calculated to help the teacher and student to correlate the home work with the work at school are given. The bulletin known as States Relations Service Document 57, will be mailed free on request, while the supply lasts, to instructors or administrators of high school agriculture.

PLAYGROUND AND RECREATION Association of America has a pamphlet entitled "Athletic Badge Test for Boys," which will help teachers who are interested in the physical welfare of children and who realize the need of a standardized test of physical efficiency. This pamphlet may be secured for a nickel from the above Association, located at 1 Madison Avenue, New York.

IN THOUSANDS of American schools WEBSTER'S NEW INTERNATIONAL DICTIONARY is the court of final appeal in spelling and pronunciation, in etymology and definition. Is not such standardization worth while for your school? If you are not equipped with this Supreme Authority why not suggest to your school board that you need it? Pupils should have every opportunity to do effective work and win promotion.

We have received an extremely attractive calendar, picturing a beautiful white rose and advertising SNOW WHITE, a white water color fluid, for use with pen, brush or air brush.

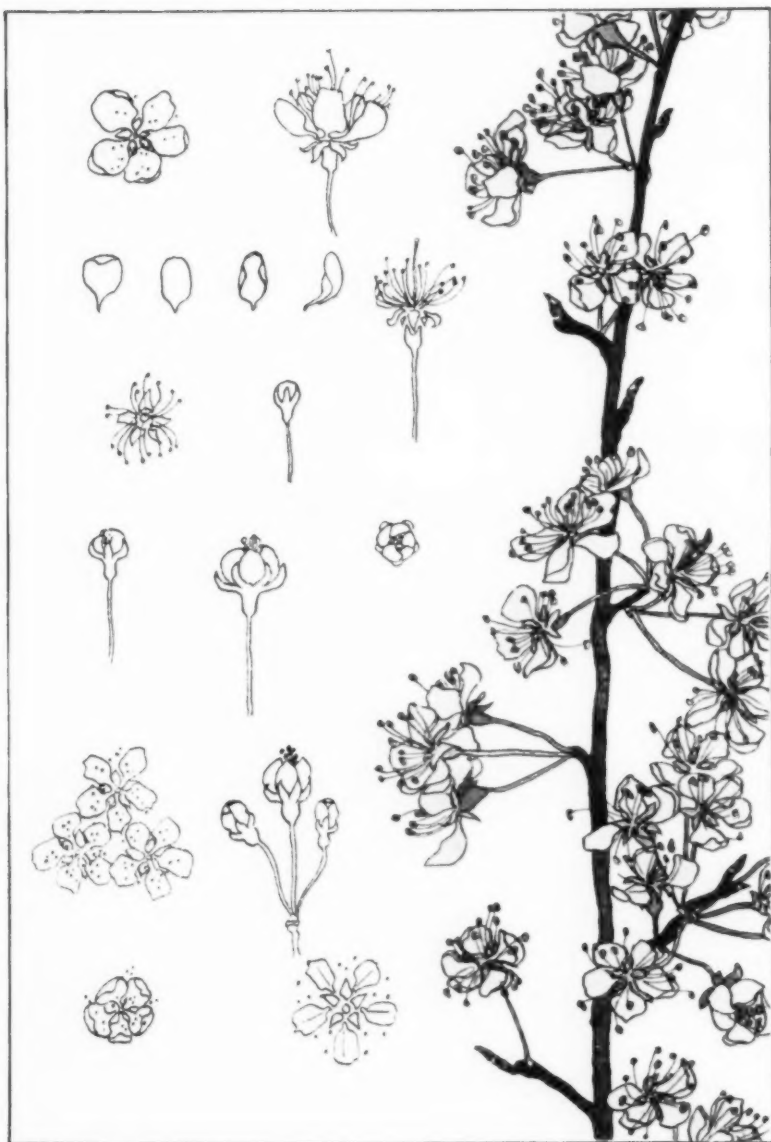
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A BOY WHO LOVED THE STARS, a biographic sketch of John Alfred Brashear which appeared in the last November issue of the *Normal Instructor and Primary Plans*, has been reprinted for the exclusive use of the Pittsburgh Public Schools.

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